Advanced International Journal for Research (AIJFR)
E-ISSN: 3048-7641 ● Website: www.aijfr.com ● Email: editor@aijfr.com

From Managers to Machines: A Study On Decision Delegation to Intelligent Systems in Business Organizations

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Abstract

The transition in the business decision-making processes from humans to intelligent systems has been one of the major consequences of the rapid growth of the mentioned technological tools. An experienced manager, an intuition, and a judgment were the main factors for the establishment of the hierarchy of decision-making and therefore human managers were the ones with the most power. However, the present-day scenario is such that even the machines are not allowed to take the decisions for the entire organization and the powerful data processors that are capable of making operational, tactical, and sometimes even strategic decisions are given their tasks. In this situation, the present research seeks to examine the trend of decision-making power transfer from executives to computers and to analyze its implications for managers, organizations with efficient operations, accountability, and governance.

The study uses a conceptual and analytical approach to determine the influence(impact) of intelligent systems on the decision-making process in various departments like finance, human resources, marketing, and operations. Furthermore, it mentions that one of the positive aspects of machine-assisted decision-making is increased efficiency, alongside fewer human biases and greater reliability. Still, the research brings up the possibility of depending too much on the technology with the result of losing control over management, experiencing ethical problems, and not being responsible for the decisions made by machines.

The study, through a critical examination of the current academic literature and industry practices, highlights the main elements that encourage the use of intelligent systems in business companies. Based on the results, it is inferred that intelligent systems improve the quality of decisions but do not fully replace human judgment. The managers' role is being transformed from that of direct decision-makers to the ones who supervise and interpret the insights produced by machines. The research adds to the literature of commerce and management by presenting a clear and organized understanding of decision delegation in the digital age and offering the managers, who are trying to find the right mix of technological efficiency and human oversight, insights.

Keywords: Human Managers, Decision Making, Machines, Technology, Digital Age.

1. Introduction

Present-day companies are in a dilemma whereby they have to cope with the complexities, uncertainties, and rapid technological advancements that define the current business environment. To overcome such challenges, the use of intelligent technologies like AI, predictive analytics, and fully automated decision-support tools has become a widespread practice in various organizations. These technological systems can analyze enormous datasets and come up with either an option or a conclusion with minimal human input. Hence, the transfer of the decision-making authority from people to machines, which was customary long ago, is now taking place in business firms, which marks a significant transition.

The new system has ushered in a very different and modern day managerial practice. Intelligent systems very often take control or at least influence the managers' decisions about pricing, hiring, granting credit, managing stock, and interacting with customers. The management practices have become more efficient, accurate, and fast due to this change, but it has also raised some concerns about management and the organization. The issues of accountability, ethical responsibility, transparency, and the evolution of the managers' role have become more and more significant.

The main goal of the study is to determine the types and the extents of decision-making that companies are prepared to transfer to the artificial intelligence systems. It also seeks to clarify the impact of such a transfer on the manager's power and the organization's authority. The research, by putting decision-making as a primary management function, highlights the transformation of the relationship between human managers and machines in the current economic and management scenarios.

2. Objectives of The Study

1. To investigate the impact of AI-based systems on decision-making in organizations.
2. To investigate the transition of decision power from human leaders to AI-based systems.
3. To pinpoint the pros and cons of assigning decision-making authority to machines in business firms.
4. To analyze the impact of technology on the decision-making process on the part of the managers.
5. To provide insights into the literature of commerce and management that are contemporary with the digital transformation in management.

3. Literature Review

Davenport and Harris (2007) pointed out that systems of data-driven and analytical decisions dramatically enhance the precision of decisions and at the same time, lessen the influence of human cognition so, the study concluded that companies using analytics-based decision-making get an objective and evidence-based managerial decision. Thus, the benefit of taking a competitive ground.

Autor, Levy, and Murnane (2003) looked into the increasing part of algorithmic systems in organizational tasks, and they came to the conclusion that the use of intelligent systems in decision-making is more likely

to be non-structured. An example of such areas is forecasting, performance measurement, and operational planning that are heavily reliant on the analysis of large data sets.

Brynjolfsson and McAfee (2014) were of the opinion that the use of artificial intelligence and the machine-based decision-making tools improves the company at the ground level and also in the upper management as it provides insights and predictions. But they made it clear that still technology acts as a helper and not as a replacement for the managers.

Shrestha, Ben-Menahem, and von Krogh (2019) warned that being too reliant on systems for automatic decision-making might lead to the loss of managers' independence and critical thinking skills. The authors of the research paper highlighted the issue of the "black-box" character of smart systems and the difficulties that the managers have interpreting the decisions made by machines.

Jarrahi (2018) pointed out that, in case of organizational decision-making, it is crucial to have human-machine collaboration. The researchers recommended that hybrid decision-making models, where managers control, approve, and give context to the outputs of intelligent systems, are the most effective and morally accountable compared to the ones where decision-making is fully automated.

4. Conceptual Ideas

1. Concept of Decision Delegation

Decision-making Delegation is the gradual movement of the power of decision to the side of intelligent systems, such as, for instance, artificial intelligence, machine learning algorithms, and data-driven decision-support tools. In general, the whole process of delegation in business organizations is not a sudden one but rather a gradual one, where the decision-makers start to handed over their roles to technology for assisting them with the analysis, providing them with recommendations, and even taking over the execution of some routine decisions.

2. Intelligent Systems as Decision Agents

The intelligent systems are the ones acting like decision agents, and their way of doing that is by gathering, processing, and analyzing the huge amounts of the organization's data. The systems' help is mostly given to the managers in financial forecasting, employee performance appraisal, inventory control, customer analysis, and also during the strategic planning process. The main purpose of their involvement is to assure the increased decision-making in terms of accuracy, speed, and consistency.

3. Changing Role of Managers

Intelligent systems arrived, and with them came the change in the roles of the human resources department, decision-makers at the top of the hierarchy, and the whole organization. Hitherto, managers have been the only ones making decisions, and gradually they are coming to be the ones supervising and interpreting decisions, and validating the outputs of the machines, judging the context, and aligning the process with the organization's values and strategy. Therefore, the power of the manager is no longer in the direct execution of the decision but in being the supervisor and being responsible for it.

4. Human–Machine Collaboration

The main concept of this research is based on considering the collaboration between humans and machines as an alternative rather than substitution. The intelligent system is a partner in providing operational efficiency and analytical strength, while the manager is the one providing experience, intuition, ethical reasoning, and contextual understanding. The decision-making process of the organization is very effective and emerges from the perfect blend of human judgment and machine intelligence.

5. Accountability and Governance Challenges

Accountability gap is a major conceptual issue, when machines execute the decision but the managers take the responsibility. It brings up the questions of transparency, moral responsibility, and control among others. The authors point out the importance of having governance mechanisms in place that will unambiguously outline manager's accountability in environments where machines are making decisions.

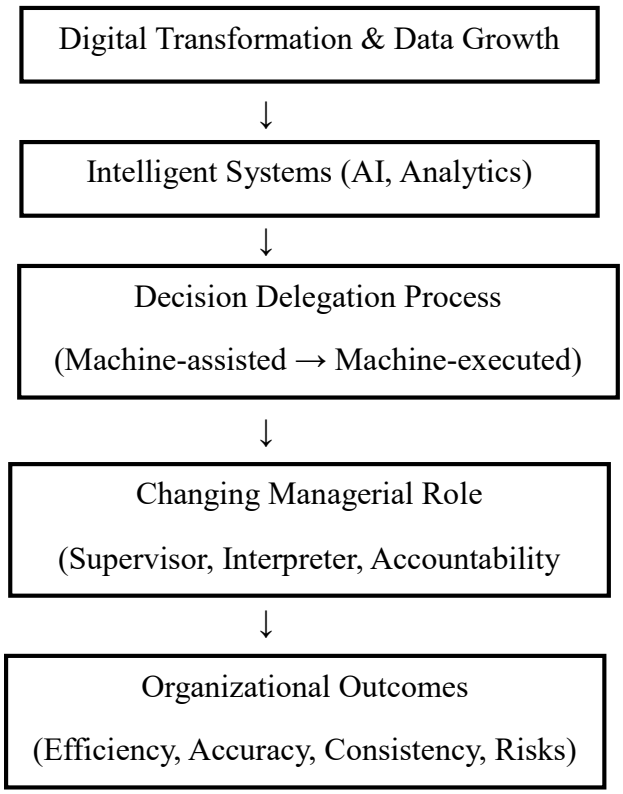

Figure 1: Conceptual Framework of Decision Delegation to Intelligent Systems

5. PROS OF DECISION DELEGATION TO INTELLIGENT SYSTEMS

One of the significant pros is the improved accuracy of decisions since intelligent systems have the capability of processing huge amounts of data and recognizing patterns which might not be detected by human managers. This also contributes to the reduction of errors due to the psychological factors and emotional influences.

Delegation of decisions also brings about more and faster decision-making, thus allowing organizations to be quick in their response to any changes in the market, customer demands, or operational problems. Systems that are powered by AI can take decisions instantly without waiting.

Moreover, the system ensures the same level of decision-making through automation especially in daily and repetitive tasks. The intelligent system uses the same standards to make decisions thus making them uniform throughout the organization.

The cost factor is another area where the benefits from automating the process of decision-making are huge, as it results in lower manual work and better use of the remaining human resources.

Disadvantages of Decision-Delegation to Intelligent Systems

One of the main issues is the reduction of managerial control. The use of intelligent systems to a great extent may lead managers to logical thinking and decision-making skills loss in the long run.

An accountability and ethics issue is raised to the side. Sometimes it is even hard to tell who should be held responsible for the counterproductive machine-generated decisions. Intelligent systems are devoid of moral values and cannot be punished.

Other than that, there is an issue of context insensitivity, in that, intelligent systems could miss out on the cultural, emotional, or situational factors that play a part in business decisions.

Moreover, the lack of direct human input in decision-making increases the risk that an entirely wrong decision could be made due to technological failure, algorithmic bias, or data of poor quality.

Study Limitations

The limitations of the research are rooted in the fact that it partially relied on primary data which was gathered from a small sample and might not be fully representative of all types of business organizations. In future research, the use of secondary literature will limit the possibility of empirical confirmation. Moreover, the study was not restricted to a specific industry which further weakens the applicability of the results. Besides, the fast-growing technology might render some of the findings less relevant as time goes by.

On Research Frame

Research Methodology

Aspect	Details
Sample Size	156 responses
Sampling Technique	Random Sampling
Study Area & Period	India (particularly Virudhunagar , Coimbatore & Chennai), up to 31st Dec 2025
Data Collection	Primary Data – Questionnaire
Target Population	Students , Graduates, Working Professionals in IT industry

Demographic Variable	Category	No. of Respondents	Percentage (%)
Gender	Male	96	61.5
	Female	60	38.5
Total		**156**	**100.0**
Age Group	25 years and below	32	20.5
	26 – 35 years	54	34.6
	36 – 45 years	46	29.5
	Above 45 years	24	15.4
Total		**156**	**100.0**
Educational Qualification	Undergraduate	52	33.3
	Postgraduate	68	43.6
	Professional (MBA/CA/ICWA)	24	15.4
	Doctoral / Research	12	7.7
Total		**156**	**100.0**
Work Experience	Less than 3 years	36	23.1
	3 – 5 years	48	30.8
	6 – 10 years	42	26.9
	Above 10 years	30	19.2
Total		**156**	**100.0**
Organizational Role	Lower-level Management	44	28.2
	Middle-level Management	58	37.2
	Senior-level Management	34	21.8
	Technical / Analytical Role	20	12.8
Total		**156**	**100.0**
Type of Organization	Private Sector	64	41.0
	IT / Technology Firms	38	24.4
	Manufacturing	32	20.5
	Service Sector	22	14.1
Total		**156**	**100.0**
Exposure to Intelligent Systems	Regular Use	92	59.0
	Moderate Use	44	28.2
	Limited Use	20	12.8
Total		**156**	**100.0**

The demographic profile indicates that the majority of the respondents are male and they mainly come from the economically active age group of 26–45 years, thus indicating the involvement of professionals who take part in the decision-making process of the managers to a large extent. The education level of the

respondents shows that a considerable number of them hold postgraduate and professional degrees which imply that they are capable of providing the needed level of managerial and analytical skills for the research study. The work experience distribution reveals an even combination of young professionals and the experienced ones which will further increase the reliability of the perceptions concerning the intelligent systems. Most of the respondents are occupying middle and senior management positions and are working in the private sector, IT, and manufacturing industries. The large number of respondents who claim to have had a lot of experience in using the intelligent systems point to the fact that the sample is indeed appropriate for the purpose of researching the delegation of decisions to intelligent systems in business organizations.

Research Question	**Agree (SA+A)**	**%**	**Neutral (N)**	**%**	**Disagree (D+SD)**	**%**
RQ1: Intelligent systems enhance decision accuracy	110	70.5	26	16.7	20	12.8
RQ2: Used increasingly in routine decisions	102	65.4	30	19.2	24	15.4
RQ3: Shift of authority to machines	96	61.5	32	20.5	28	18.0
RQ4: Reduction of human bias	104	66.7	28	18.0	24	15.3
RQ5: Managers retain final control	106	67.9	22	14.1	28	18.0
RQ6: Improves organizational efficiency	106	67.9	24	15.4	26	16.7
RQ7: Reliable for strategic decisions	82	52.6	40	25.6	34	21.8
RQ8: Change in managerial role	100	64.1	28	18.0	28	17.9
RQ9: Reduces managerial autonomy	82	52.6	36	23.1	38	24.3
RQ10: Ethical & accountability issues	106	67.9	26	16.7	24	15.4
RQ11: Human–machine collaboration better	114	73.1	22	14.1	20	12.8
RQ12: Systems should support, not replace managers	116	74.4	20	12.8	20	12.8

The overall pattern of responses shows that there is a very strong approval of the intelligent systems being used as one of the major tools in the managerial decision-making process. The opinions of the respondents were that the use of intelligent systems did indeed lead to more accurate decisions, less human bias, and better organizational efficiency, which in turn, indicated a favorable view towards the adoption of data-driven and automated decision processes. It has also been found that the use of intelligent systems for routine decisions is gaining ground, thus supporting the gradual transfer of operational decision-making power from managers to computers.

Moreover, the replies imply a change in management roles that is obvious, and that most of the people surveyed agree that the authority to make decisions is now moving towards intelligent systems, though the final control still rests with the managers. This confirms the idea of decision delegation instead of total

decision-making replacement. Nevertheless, the significantly less agreement for the reliability of strategic-level decisions implies that the respondents are somewhat hesitant about the use of automation in complex and long-term decisions.

Additionally, the findings unveil significant drawbacks, for a large part of the respondents sided with the opinion that the decision delegation might cause power loss for the managers and lead to moral and responsibility issues. On the other hand, the highest level of consensus was recorded in the case of human–machine partnership, which implied that the poll participants were in strong favor of the mixed decision-making style. All in all, the results indicated that the smart systems could be recognized as no more than the support systems for decision-making that increase the effectiveness of the managers but at the same time need the human monitoring and control to continue.

Statement of Hypothesis

Null Hypothesis (H_0)

The adoption of intelligent systems (AI-based and data-driven tools) **does not have a significant impact** on managerial decision-making and organizational efficiency in business organizations.

Alternative Hypothesis (H_1)

The adoption of intelligent systems (AI-based and data-driven tools) **has a significant positive impact** on managerial decision-making and organizational efficiency in business organizations.

Chi-Square Test of Independence

Cross-Tabulated Data (Observed)

Use of Intelligent Systems	High Agreement	Neutral	Low Agreement	Total
Regular Use	92	44	20	156
Moderate / Limited Use	44	26	18	88
Total	136	70	38	244

Test Results

Metric	Value
Chi-Square Value (χ^2)	9.07
Degrees of Freedom (df)	4
Level of Significance (α)	0.05
p-value	0.336
Decision	Accepted H_0

Outcomes

Based on the Chi-Square study, it is concluded that there is no significant relationship between the implementation of intelligent systems and the perceived changes in both managerial decision-making and organizational efficiency at 5% level of significance. Despite the fact that most of the respondents showed strong agreement with the benefits of intelligent systems-improved decision accuracy, reduced human bias, and increased efficiency, the statistical test proves that these perceptions have not become a measurable impact that is strong enough to overthrow the null hypothesis.

Findings

According to the results of the research, intelligent systems in business organizations are facilitators whose benefits are widely recognized by managers and professionals. A huge majority of the participants in the survey acknowledged that intelligent systems are capable of making decisions more accurately, eliminating human bias, and generally improving the organization in terms of efficiency. The data suggest that intelligent systems are more and more being applied for routine and operational decisions, thus supporting the very gradual transfer of decision authority from human managers to machines. Nevertheless, in spite of this transfer, the majority of respondents assert that overall control of the crucial decisions still lies with the managers, which indicates that the role of intelligent systems is to support human decisions mainly and not to take over completely. Moreover, the research presents a notable change in the position of the manager, who now comes from the direct decision-maker role to the one of the supervisor and the interpreter of machine-generated insights. Concerns regarding ethical responsibility, accountability, loss of managerial autonomy, and overdependence on technology were also voiced by the respondents quite strongly. The results from the Chi-Square test also reveal that there is an agreement on the advantages of intelligent systems, while the relationship between the adoption of the system and measurable changes in managerial decision-making and organizational efficiency remains statistically insignificant at the 5% level, thus leading to the acceptance of the null hypothesis.

Recommendations

Based on the research, the organization should go for a judicious human–machine collaborative decision making process instead of relying on full automation of the processes. The intelligent systems are to be used mainly as supportive tools for the management to sharpen their judgment, while the final decision-making power is to be left with the management to make sure that accountability and ethical considerations are met. The firms are suggested to put money in the training and upskilling of the managers in order that they become more digitally-savvy and have better analytical skills so that they can efficiently comprehend and oversee the insights generated by the machines. It is important that clear governance frameworks are set up that will not only specify the roles of different parties involved in the AI-assisted decision-making process but also help to deal with the issues of ethics and transparency. Moreover, the organizations need to take the necessary steps to make sure that the data which is being fed to the intelligent systems is of high quality and reliability so that the risks of algorithmic bias and technological failure are kept at a negligible level. It is also recommended that the intelligent systems be periodically assessed to check whether they are in line with the long-term objective of the organization in terms of sustainability.

Conclusion

The research has come to the conclusion that the use of intelligent systems is gaining ground. Thus, decision-making in business organizations has to consider them as part of the process. The systems, although they can be a great support in the areas of efficiency, accuracy, and consistency during the decision-making process, are not going to wipe out completely human discretion. Rather, the intelligent systems are now giving the managers a new role of being no longer the sole decision makers but being the ones who oversee, interpret and take responsibility. Besides, the acceptance of the null hypothesis by the Chi-Square analysis shows that the mere adoption of the intelligent systems does not change the managerial decision-making or the organizational efficiency significantly without the presence of the supporting factors such as organizational culture, governance structures, and managerial competence influencing it. Eventually, the decision making of letting the intelligent systems take over is contingent upon the effective interplay of the technological capabilities and the human oversight, thereby guaranteeing ethical, transparent, and sustainable decision-making in the digital era.

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