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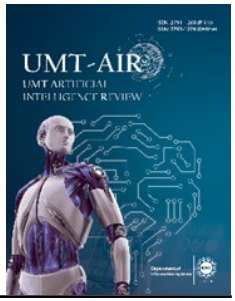

Title: **AI and BI Synergy: A New Frontier in Business and Economics**

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AI and BI Synergy: A New Frontier in Business and Economics

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ABSTRACT The convergence of Artificial Intelligence (AI) and Business Intelligence (BI) is creating a new era of transformative change in the realms of business and economics. The current study aimed to combine AI with standard BI approaches in order to achieve results, such as enhanced decision-making, optimized operations, and a competitive edge. The merger of BI and AI helps organizations and businesses derive deeper insights while using big datasets, which may cause improvements in predictive skills, personalized customer experiences, and ultimately optimized allocation of available resources. Moreover, this study also examined the prior literature and founded on observations, investigated the interaction of BI and AI with economics and areas pertaining to business study areas. After establishing and executing prior literature reviews and analytical structures, we concluded that the AI and BI combination is necessary and meaningful for the analysis of economic issues as well as business problems. In the current era, AI and BI interventions can generate complex challenges, daily threats, and innovative ideas. The study revealed a positive and significant influence of BI and AI's positive and significant influence in resolve economic and business challenges and making decision-making an efficiently.

INDEX TERMS Artificial Intelligence (AI), Business Intelligence (BI), business study, economic analysis

I. INTRODUCTION

Businesses and countries can employ Business Intelligence (BI) techniques to study the trend in various economic parameters, such as interest rates, Gross Domestic Product (GDP), and inflation in the country. BI platforms can also be utilized before launching innovative products and market trends for existing as well as newly introduced products. No doubt, the implications of BI and Artificial Intelligence (AI) may be disadvantageous for economics and, in some cases, business analysis. However, overall, both techniques may help economists resolve critical economic and business issues. In the modern era, the existence of highly competitive markets and relevant complicated issues with unpredictable political scenarios may slow down the growth of businesses. However, development may be achieved through the employment of BI and AI techniques that ultimately satisfy customers and country residents, collectively [1], [2]. AI plays a vital role in the field of economics for projections and choices. AI systems excel in accurately predicting and estimating the trending data, especially when analyzing large amounts of data. As a fast-developing area of study, AI is getting considerable attention since it provides fast gearing in commercial and economic sectors. The application of AI technology is mandatory in various areas of business and economics analysis nowadays. AI, in businesses, may compel the industry to rely on more effective, cost-efficient, and targeted marketing approaches. Businesses may

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attain a competitive edge over their competitors through AI technology implications and might also attract and motivate more audiences towards their products and services. Through AI applications, a firm can reorganize itself through innovative advertisement and may win more market shares [3].

Fraud detection, risk management, and investment opportunities may be accessed through AI-based trading algorithms in business and finance [4]. According to a study, through employing AI, economic forecasting model can be established which is more beneficial [5]. AI may affect the labor market. A few studies have confirmed that sooner or later, AI may be replaced with labor and many other fields of economics would be swapped with AI [6]. Fears about AI algorithm bias may be considered, and possibilities of economic equality and discrimination may be highlighted [7]. Economic analysis uses complicated economic models, and these models depend on big datasets for evaluation which are influenced by economic patterns and policies. A massive change in the field of economic analysis may be caused due to AI and BI. To maximize the economic decision-making, accurate forecasting, robust policy formation, and in-depth knowledge, cutting-edge technologies can play a crucial role.

With both potential advantages and disadvantages, AI plays a robust role in economic analysis and related emerging focus. Based on the above discussions, it is necessary to study the economic consequences and ethical implications of AI in the field of economics and businesses. To resolve real-ground obstacles and offer their prime resolutions in the field of economics and business, AI is an innovative technology which was developed in the 19th century. Neural networks, Machine Learning (ML), and Deep Learning (DL) are now associated with concepts, such as digital marketing, decision-making, Industry 4.0, and firm digital transformation. As the competitive advantages of the use of AI by economic organizations emerge, the fascination with this technology would only grow [8]. Through massive data analysis using AI and BI techniques, economists introduce reforms which become the source of revolution in economic phenomena. To establish decision-based data analysis, BI enables the economists to produce effective outcomes. AI has transformed the economists' approach towards data collection and analysis. With advanced algorithms, AI can identify patterns, trends, and correlations within economic datasets that may not be easily discernible through traditional methods. For instance, ML algorithms may analyze consumer behavior to predict future market trends or assess the impact of policy changes on various sectors [9].

The combination or merger of AI and BI technologies has also improved marketing and strategic decision-making, just as it has revolutionized the study of economics. Marketers may use AI and BI to get valuable insights and make sound decisions based on data analysis [10]. For instance, AI-powered solutions may review massive amounts of consumer data to uncover the trends that help marketers understand what impacts consumer decisions and how to communicate with their target market in an effective way. AI may also assist marketers in determining the effect of regulatory changes on certain businesses. Machine Learning Algorithms (MLA) facilitate robust insights about changes in economic policies which may influence a particular business through economic analysis. To

overcome and take initiatives regarding competitive firms, businesses stay one step forward. To make data-driven decision-making, AI and BI provide knowledge to the marketers. Through the implication of AI and BI technologies, marketers collect a huge amount of data and analyze it to better understand their market requirements and customer needs. Efficiency of firms' campaigns, return rates, and overall growth performance may be evaluated through BI and AI.

Tactics improvements and wise resource allocation based on the optimal data-driven policy, facilitated by BI and AI, may cause growth in any business. Understanding consumer behavior, market trend predictions, hunting new customers, market capturing, innovation in existing products, and decisions based on analysis through AI and BI technologies are the criteria of markets. Presently, to maintain competition and market existence, markets must consider the digital changes in the world which ultimately can be understood through BI and AI [11].

AI has substantially improved the segmentation of customers, enabling marketers to deliver specific advertisements that connect with individual clients, consequently improving participation and revenues. Additionally, AI also plays an important part in content creation, as the demand for promotional materials rises, marketers have an increased need to provide their most engaging content.

Through the creation of themes, attractive headings, and unique content using AI applications, advertisers may earn considerably. AI-based generated content attracts the customers as content is created according to customers' taste. Hence, AI significantly influences the social media advertising sector [12]–[14].

The current study aimed to explore the synergistic integration of AI and BI. Moreover, it also examined its transformative impact on economics and business.

II. SIGNIFICANCE

AI and BI are two influential pieces of equipment that have had a significant impact on the field of economics. These technologies have had a deep-rooted effect on the career of people across the globe. The extensive integration of these two has completely transformed the way economists analyze the data, predict conclusions, and obtain deductions. The economic impact of AI and BI by considering a variety of factors, such as real-time insights, improved policymaking, resource allocation, market analysis and forecasting, risk management, data visualization, increased productivity and efficiency, innovative concepts, and competitiveness.

AI and BI are changing the course of the economy and the way companies work. They make processes simpler, enhance planning, and allow to take big decisions in an easier way. This is like having a crystal ball to look into the future for better business predictions. AI makes BI systems smarter, while the systems may crunch numbers in real-time and identify patterns. Consequently, it becomes easier and quicker for companies to respond to various market changes while letting AI perform mundane tasks to free people in order to be more creative. Such systems identify various issues and provide recommendations to fix them, and, therefore, act like an assistant that saves time and money. AI-powered BI shall predict what the customers would need or

want while personalizing their experience for heightened satisfaction that would be helpful in marketing to create repeated businesses. This blend of AI and BI might be new but it is the bombshell that could revolutionize everything, change the way businesses operate, and create new industries. While some jobs would become automated, new opportunities would open up for those skilled in thinking through a strategy around data science and AI ethics. It is a new playground for businesses which needs to be trodden carefully. Research is significant because it plays a paramount role to maximize these tools without failure [15], [16]. Last but not least, the combination or blend of BI and IA into the ground of economics and business learning has brought about an inclusive transformation in the procedures and techniques that economists employ for data analysis, estimation, and policy formulation.

A. OBJECTIVES

The leading purpose of this exploration was to investigate and elucidate the critical role that AI and BI play in economic research. The current study aimed to offer insights on the ways in which AI and BI are revolutionizing the economic and business research. Additionally, this study also made a substantial addition to the area by exploring their integration, effects on economic forecasting, applications in market research and consumer behavior, benefits of efficiency, function in policymaking, and challenges that need to be addressed.

Eventually, the current study attempted to identify the AI and BI intervention proposals which might enhance and streamline the economic analysis, policymaking, and management operations. With more support of AI, BI systems may streamline the analysis of information, provide consumers with predictive competencies, and enhance decision-making. Once put in tandem, these two approaches constitute a thorough strategy to collect, interpret, and understand the economic data.

III. SYNERGIES BETWEEN AI AND BI

The terms AI and BI are used interchangeably, nevertheless of the fact that these two notions have apparent implications. Since AI may simulate human intelligence, employing neural networks and MLA, it can explain data, learn from it, and modify it. On the contrary, BI implies leveraging historical data to update the existing and forthcoming organizational decisions. Merging AI and BI originates an influential synergy. The use of AI in BI blends consequences in the automation of data processing, the obligation of predictive competences, and an inclusive progress in decision-making. The sequence of these two attempts keeps a thorough approach to economic data collection, analysis, and understanding within the context of economics.

IV. TRIANGULAR RELATIONSHIP AMONG AI, ECONOMICS, AND BUSINESS

The use of AI emerged in early 1990s and has evolved rapidly. The goal is to develop machines that can perform cognitive activities and make decisions without human input. AI has advanced considerably towards outperforming humans in cognitive capacities; however, it has not yet achieved this. Computer AI is programmed using swarm, evolutionary, and genetic algorithms [17]. Robots with AI can replicate human intelligence by learning and solving problems using ML techniques. They improve their work and complete

challenging jobs quickly and accurately when left to their own devices or with little oversight [18].

According to several studies [19]–[22], predictive analytics is a subfield of analytics that aims to improve business performance by predicting the likelihood of an event occurring, future trends, or outcomes using current data. Assigning scores, weights, or parameters to infer future trends or outcomes reflects the link among components to evaluate risk from a collection of situations. The use of Predictive Analytics (PA) would allow the company to make good use of big data [23], [24]. Predictive analytics have enhanced planning-oriented tasks by reducing the potential for training-induced injuries caused by human experts' cognitive biases [25]. Using prescriptive analytics, experts in stock market prediction have been able to track stock movements and help stockbrokers make risk-averse investments on the stock platform [26]. Corporations may be proactive and future-oriented with the PA technique using data to predict outputs and behaviors rather than assumptions. Furthermore, PA proposes practical steps that users can take to achieve their goals based on its predictions [27], [28]. The future of PA is expanding beyond the realm of mathematicians and statisticians into corporate applications [29], [30]. There are further justifications for why businesses use PA. These include the size of the flow and a data class, the need to create a strong competitive differentiator, the use of current data to forecast or generate valuable outcomes and guidance, the use of computers and supercomputers with improved speed and lower costs, user-friendly programs, and severe economic conditions.

. Prior to utilizing PA, it is imperative to formulate clear definitions for datasets, projects, deliverables, scope, and business objectives. Insufficiently executed data would render the analytics ineffective. A common procedure is to collect data from multiple sources and then analyze it in order to have a comprehensive understanding of client interactions. The data is examined, cleansed, and transformed before using it to ensure its suitability for statistical analytics. Ultimately, statistical analytics and standard statistical models would be employed to verify the accuracy of the hypothesis [19], [31]. After doing the preliminary work on predictive analytics, the user would go on to the modeling phase of the process. In this step, predictive modeling tools would be employed to create accurate prediction models. Integrating the models into regular decision-making enables the collection of results, reports, and outputs through automated model-based communication (auto-mail or auto-message). This approach allows for the acquisition of anticipated assessments. Eventually, the regular monitoring of the model ensures that precise estimates are consistently generated.

Globalization has made the process of expanding into new markets and entering new markets easier for businesses. Natural Language Processing (NLP), which is a subfield of AI, enables the computers to gain the ability to comprehend, evaluate, and even generate new languages. On the other hand, comprehensive walkthroughs and literature on its uses are scarce. The current study examined the benefits and difficulties of using NLP in management research, which looks at publications published in the UT Dallas List of 24 Leading Business Journals [32]. Researchers have been focusing on the development of communication technology

capable to understand natural languages and emotions in order to replicate human interactions, motivated by the growing reliance on computer-assisted systems. Information overload has led to an increase in unstructured data, which holds significant importance in fields, such as healthcare, education, and business. The combination of NLP with sophisticated technologies, such as ML, AI, and DL may lead towards improved human-computer interaction, enhanced decision-making, and increased operational efficiency [33]. NLP is a cutting-edge field of AI that enables computers to comprehend human speech and utilize that information to form assessments. Ubisoft's NLP skills might be advantageous for various industries including online advertising, healthcare, and e-commerce. Some of the most significant uses of NLP in the corporate world include understanding client needs, improving communication, and enhancing the customer experience [34]. NLP is used extensively across a variety of commercial disciplines, incorporating advertising, healthcare, and internet trade, among others. For the determination of NLP, the business segment widely uses applications, such as machine translation, sentiment analysis, social media monitoring, chatbots and virtual assistants, text analysis, speech recognition, text extraction, autocorrect, and spellcheck, as well as other applications of similar nature [34]. Customer service, which intends to keep customers glad, and reputation management, which requires keeping tabs on public sentiment against a person or an organization, are two of the five main uses of natural language administering in businesses. Ad positioning is based on locating the people or organizations fascinated by varied products. The term "market intelligence" describes a company's familiarity with its rivals' plans and actions. Regulatory compliance revolves around the potential legal liability of any product [35].

To extract relevant insights from the collected data, firms employ NLP to attain a profound grasp of customers' intent using sentiment examinations and always try to improve the overall performance and growth. The technology known as NLP outperforms humans in evaluating data based on language and does not feel fatigue. Businesses are currently experiencing a significant impact from the field of NLP, and it has been anticipated that this influence would continue to grow in the years to come.

MLAs are algorithms for computation that identify patterns in data and forecast or estimate them without requiring explicitly written code or human input. Image and audio detection, endorsement techniques, fraud detection, driverless automobiles, and NLP broadly vary based on these algorithms, which form the ultimate basis of advanced AI. The digitization of the economy is leading towards an impressive expansion in the quantity and complication of the economic data. Both opportunities and barriers need to be created for predictors seeking to comprehend economic processes through the assessment of such data. One hypothetical explanation to the problems initiated by the digitization of the economy for economics research and analysis is ML, which has become an effective tool to handle big and complex datasets in several fields. It may be possible to construct more sophisticated economic models with the help of ML models due to their competence in processing substantial amounts of heterogeneous or diverse data. Therefore, ML is getting considerable relevance in economics research [36]. Macroeconomic indicators play a fundamental starring role in concluding a

nation's development towards prosperity in the worldwide economy. In the aforementioned eras, researchers used standard regression methods to estimate macroeconomic parameters. Efficient ML approaches have steered to the development of appropriate systems to focus time series forecasting hurdles in various economies, worldwide [37]. Literature proposes that ML models may be valuable for economics due to their capacity to handle non-traditional data types (such as images, texts, audio, and videos) with non-linearity, which is opposing for traditional models. Additionally, ML models can process traditional data on a large scale, leading to improved prediction accuracy, the extraction of new information, and automated feature extraction. For instance, due to its quantity and complexity, big data may necessitate more powerful processing capabilities that machine learning provides [38]. ML may also aid in variable selection when researchers have an excess of suitable prospective predictors (or characteristics). By capturing more flexible links between the data than nonlinear models, ML approaches are useful to deal with massive data and perhaps in generating new insights. According to a study [39], ML's magnificent intensity is its capacity to reveal formerly invisible complex structures in data. Additionally, in order to source ML in economics, applicable tasks need to be recognized, with an accent on acquiring generalizable designs in complex datasets or augmenting the accuracy of forecasts. Big data environments with information on many features, several pieces of information on each feature, or both have proved ideal for ML approaches [40]. They recommend that economists conducting research or analysis using ML tools should specify what they hope to achieve and why particular MLA features are significant.

V. TRIANGULAR CONNECTION AMONG BI, ECONOMICS, AND BUSINESS

Currently, companies have more readily available data than ever before. Everything, from production and delivery statistics to customer satisfaction surveys, generates and stores massive volumes of data for businesses. In order to help firms improve their efficiency and boost their revenues, BI employs a variety of approaches that utilize this data. Smart company leaders may use these approaches and software analytics to their advantage, allowing them to get raw data for strategic planning purposes and giving their companies a leg up in the market [41]. BI consists of five parts: data sources, information repositories or data warehousing, real-time BI, advanced analytics, or corporate performance management (CPM), and online analytical processing (OLAP).

An organizations' ability to make sound financial decisions relies on the quality of their data and information, the efficacy of their BI management, and the level of motivation among their employees [42]. BI enhances decision-making in public firms by facilitating better control and monitoring of decision bases, enhancing data quality, analysis, and human involvement [43]. Big data is valuable for economic decision-making even with potential obstacles, such as data errors and interpretation discrepancies since it provides a source for logical conclusions [44]. Businesses that employ BI can improve their decision-making processes and more realistically manage closed finances utilizing systems or algorithms and data from the US stock market. . This data is required for both economic forecasting and infrastructure

construction [45]. The positive effects of BI include the integration of data sources, the improvement of data quality, and the ability to make quick judgments. BI plays a critical role in making economic decisions and in helping firms stay ahead of the competition in a constantly changing market [46]. According to the study [47] findings, BI is an essential component for fiscal decision-making. This is because it improves management effectiveness by providing appropriate information to appropriate individuals. The application of BI is critical in making decisions regarding the economy. This is because it assists businesses in various ways, such as facilitating faster reporting, improving decision-making processes, lowering expenses, raising revenue, enhancing information quality, and expanding market share [48]. BI is crucial when it comes to making economic decisions since it provides key insights and enhances the complex evidence requirements of executives and decision-makers. BI rallies execution by integrating systems with user sequences which, in turn, improves administrative decisions. For successful decision-making in the age of big data, external factors, such as data quality and decision-making culture, impact the utilization of BI systems [49], [50]. BI has directly improved the economic decision-making by bringing about a dramatic shift in organizational knowledge. It enables the executives, managers, and analysts to make decisions more quickly and based on facts [51]. When it comes to drawing conclusions that are both strategic and operational in nature and making decisions based on data and visual representations, BI visualizations are an invaluable tool. The perceptions, progression examination, and cognitive fit that they support are all valuable [52]. According to Koundinya [53], it is essential to have BI software in order to be capable to command educated strategic choices in response to variations in consumer preferences, trends in the industry, and constraints presumed by the government. BI software transforms raw data into actionable understandings.

As part of its investigation of market trends, the analysis looks into how companies influence consumer behavior by suggesting innovations that provide them an advantage over competitors. . This is consistent with the situation, considering the basics of supply and demand, as well as the market regulations [54]. Looking at the emphasis placed by economics on the distribution and allocation of resources for valuable goods and services, market trend analysis involves the study of economic indicators as well as consumer behavior to forecast market movements [55]. Chakraborty [56] revealed that employing classifiers, such as “Naive Bayes”, “K-NN”, and “SVM” to evaluate market relationships is a valuable technique to predict the attainment of goods. When it comes to trade economics, this has a consequence not just on profit edges, however, also on the administrative activity to consider. As demonstrated by Lyu [57], financial engineering can improve marketing trend analysis by analyzing market trends with economic indicators. This, in turn, helps with marketing trends and economic benefits.

In economics, competitor analysis encompasses a variety of economic theories. These include classical, neoclassical, institutional, game theory, welfare theory, Keynesian, proactive, monetarist, and alternative economic theories. It comprehends touching the manipulation of abundant factors, such as competition, system, efficacy, novelty, dominance, and economic growth, on the dispersal of possessions and the overall prosperity of people [58].

The main objective of anticipated effects, an economic constraint applied to competitiveness legislation, is scrutiny of how substantial or dominant enterprises influence their vendors, consumers, and rivals. In economics, Ognjanović [59] analyzed how competitors affect a firm's progress, bottom line, and share of the marketplace. This is referred to as competitor analysis. In highly competitive marketplaces, Porter's Five Forces Analysis and competitive tactics serve as useful tools for success. Ginsburg [60] explained that the application of economic analysis has created a significant modification in competition theory. This modification has caused increased stability in administration, supported decision-making on cases, and caused the formation of a legislation system. As a conclusion, competition rule has been more productive.

VI. ECONOMIC FORECASTING WITH BI

Organizational efficiency enhances when data is analyzed and processed through the interaction of AI and BI to solve issues and economic predictions or forecasting for optimal decision-making. Therefore, the integral part of re-engineering procedures which increase the higher level of business analytics comprise analysis of big data, expansion in communication manners, and decision-making [61]. Through market research proficiency, value, and income-creating potential, BI techniques enhance the economic forecasting and facilitate innovation. Strategic decisions and policy formations are revealed through data translation with the help of these technologies [62]. Many AI and BI-based forecasting models have already been established by scholars which may be helpful to conclude intelligent business models. Mengov and Nenov [63] emphasized that even in the presence of limited or short historical data availability, high level of future trending and forecasting is possible with AI and BI technologies. Resultantly, AI and BI confirm their importance for economic forecasting in static as well as dynamic situations.

According to Biaojun et al. [64], economic forecasting can be enhanced by company intelligence (BI), which uses AI in decision support systems to improve the organization's forecasting ratios including prediction accuracy, production, and demand analysis. Data mining tools and techniques are integral components of BI, contributing to economic forecasting and decision-making through the extraction of valuable information from raw data for immediate application in real-time predictive analysis [65]. To help with economic forecasts, according to Lucić [66], BI uses open-source information (OSINT) to collect, analyze, and share the data which, in turn, allows for smart business decisions anchored in intelligence methods. Khan et al. [67] revealed that by utilizing MLAs to accurately predict future demands, BI facilitates economic forecasting and empowers firms to make informed decisions based on data. The examination of China's stock market revealed that BI helps with economic forecasting by gleaning useful insights from massive amounts of data, pinpointing key predictors, and improving forecast accuracy [68]. Data availability, accumulation of BI, development of new services, customer retention, and the effectiveness of the Business Intelligence System (BISE) are critical indicators used by BI to assist economic forecasting [69].

A nonlinear ML method is used for macroeconomic forecasting of multi-series, mixed-frequency data. The bi-level sparsity structure imposed in these econometrics

provides both group and within-group sparsity for recovery model parameters and optimizing the posterior distribution.

Real-data nowcasting of the US GDP growth rate and Monte Carlo experiments demonstrate the efficacy of the suggested study [70].

Globalization and the Internet have produced massive amounts of data, necessitating the use of data mining techniques, particularly clustering methods. Fuzzy clustering, a combination of ML and fuzzy logic, has improved accuracy. Economic zoning employs bi-clustering , while hierarchical clustering streamlines the analysis of national economic divisions by pinpointing similarities based on specific attributes [71].

VII. CONCLUSION

AI and BI play an important role in improving the financial research by enabling faster and better data collection, analysis, and decision-making. Using AI that can process large amounts of data simplifies policy evaluation and improves economists' ability to make accurate forecasts. In response to dynamic markets and trends, economists may utilize the market intelligence system to confirm consumers' choice and demands. AI and BI have a potential to modify and make improvements in the field of finance even if their limitations and weaknesses exist. AI and BI are revolutionizing business research by improving policy evaluation, providing real-time data, and generating resource estimates. Due to this technology, policymakers and economists now have the necessary tools to solve complex economic problems and work primarily to secure and prosper. As the importance of AI and BI increases, advances in financial research and decision-making processes would improve.

VIII. RECOMMENDATIONS

The combination of AI and BI enables the generation of novel methodologies, unique ideas, and their corresponding solutions. The influence of AI and BI on business and economic operations can be analyzed by conducting a thorough investigation and assessment which includes monitoring their advancements and modifications over time. The prior studies have confirmed a positive and significant correlation among BI, AI, and economics. The implication of BI and AI imposes financial investment significantly in the domain of business and economics. The consequences of AI-powered decision-making were examined for society related to issues, such as bias algorithms, data secrecy, responsibility, and openness. The current study discloses the data sources, methodologies, transparency, and procedure of analysis to enhance the integrity and reliability of research findings. Through knowledge project implication, there is a need to establish the gap between academic research and its practical implications. The study suggested various kinds of activities, such as workshops, seminars, and conferences of relevant politicians, scholars, and practitioners to initiate actionable outcomes.

Policymakers can utilize the current study to guide their decision-making processes including the establishment of regulatory frameworks that promote the conscientious utilization of AI and BI while simultaneously safeguarding the individuals from potential harm. There is a need to collaborate with businesses, universities, and organizations in order to protect consumer rights while promoting an atmosphere that stimulates innovation and upholds a commitment to ethical corporate conduct. Software applications must be developed to enhance individuals' expertise

in AI and BI, fostering a culture of ongoing enhancement. To prosper in a heavily artificially influenced economy, individuals need to engage in critical, analytical, and technical thinking. Allocation of resources should be prioritized towards initiatives teaching these skills. Data governance standards should be implemented to secure data usage in AI and BI-based applications. In order to reduce the dangers associated with the misuse and exploitation of data and to enhance data accessibility, utility, and trust, it is advisable to establish transparency measures, interoperability standards, and agreements. Facilitate the growth and success of small and medium-sized businesses (SMEs), academic institutions (RIs), and startups (AI/BI) by fostering innovative ecosystems. Initiatives should be implemented expeditiously to promote entrepreneurship, facilitate collaboration in research and development, and facilitate the transfer of technology by offering financial support, establishing physical infrastructure, and creating networking platforms. This would result in a higher level of economic growth and competitiveness. Evidence-based decision-making techniques should be encouraged, based on rigorous inquiry and meticulous data analysis. The decision-making process should be enhanced, outcomes need to be monitored, and policies should be adapted in real-time by leveraging AI and BI tools. These tools can be used to enhance several stages of policymaking including policy design, implementation, and evaluation. To ensure ethical and sustainable integration of AI and BI in business and economics, researchers and policymakers might adhere to the following recommendations. This would lead towards the emergence of new ideas, improved judgment, and societal and economic advancement.

A. DISCOVERING NEW ECONOMIC MODELS WITH AI AND BI INTEGRATION

The combination of AI and BI enables the creation of novel company models. Organizations want to look into the ways in which AI-powered business intelligence may enhance personalization, supply chain efficiency, and resource allocation. Companies may thrive in today's cutthroat global market by developing innovative strategies that take advantage of AI and BI's ever-changing capabilities.

B. ALLIANCE BETWEEN ACADEMIC CIRCLES AND BUSINESS

To keep up with the latest developments in AI and BI, businesses should collaborate with universities. Cooperation allows for the exchange of knowledge, the development of innovative tools, and the investigation of uncharted territory in the pursuit of greater AI and BI synergy. Companies can use AI and BI to solve practical economic challenges and stay ahead of the curve when working together.

C. CONTINUOUS INNOVATION AND ADAPTATION

To keep up with the ever-changing landscape of AI and BI, companies must be dynamic and responsive to both economic and technological developments. They must consistently innovate by upgrading their technology and improving the processes. They should also be constantly experimenting with new AI techniques and BI tools.

CONFLICT OF INTEREST

The author of the manuscript has no financial or non-financial conflict of interest in the subject matter or materials discussed in this manuscript.

DATA AVALIABILITY STATEMENT

Data availability is not applicable as no new data was created.

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