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## Impact of Robotics, Artificial Intelligence on Economics

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**ABSTRACT:** In the industrial age in which humanity has long entered steam production, primitive mechanization has occurred. The development of Internet and mobile technologies nowadays enables electronics, nanotechnologies, progress in medicine, medicine and digital applications, and so on. In addition to the robots and artificial intelligence effects on business, Stigelitz also took part in the discussions on technology and companies at the last World Economic Forum. The agenda for Robots and Artificial Intelligence is also very important. Though Stephen Hawking criticized the risks, we witness huge news and articles every day on the business pages concerning these topics and clearly corporate life and professionals can no longer stand up to these changes. Changing business conditions and working conditions will have serious consequences for the daily business life of countries and the world economy in the way business is carried out using new technologies. With regard to business and economics, the improvements in Artificial Intelligence and Robotics will face serious risks, hits, change, exposures as well as opportunities and gains. A simple example can explain the extent to which these impacts occur: should we continue providing for the payment of severance pay for company employees or calculating the depreciation / amortization of the company's robots, what side of the budget will the employees manage? This conceptual and hypothesis paper seeks to examine and discuss in different perspectives the future of robots, mechatronics and artificial intelligence.

**KEYWORDS:** Artificial Intelligence, Business, Economics, Hologram, Robots, Robotics, Mechatronics.

### INTRODUCTION

The developments in new technology, mobile devices and the web, while, on the other hand, financial crises and economic developments support changing customers' needs and behavior, continue to place severe pressures on the world economy, on countries and their budget deficits, on financial services and businesses, particularly on their profitability and revenues side. The last global financial turmoil accelerated the entrance of the humanity to a new age by having strong impacts and results on the global economy [1]. The financial base and the issuance of funds in all the developed and G20 countries have been exponentially rising, and capital movements and the cash flows especially in the new emerging world have been boosting new companies, SMEs, innovation and more research in enterprises with risk capital funds and business angels, non-banking financial institutions, e.g. microfinance, mobile operators. Initiated with mobile technology and Internet, the "Digital Age" plunges corporations into opening their businesses in the cloud and the Internet, mobilizing their client base, driving governments to launch their initiatives on e-government, and financial institutions to show up in tablets, mobile phones, and social media [2]. The tremendous convergence of e-signature, electronic invoice, online commerce, Internet, mobile banking and electronic payments into a modern type of business, generates flexibility in the corporate and individual life.

Minimizing or optimizing the work processes, business processes reengineering shifted industrial age towards the digital age by the help of e-business environments. On the other hand, the sum of the information getting bigger and bigger every single day prompted business environment to evaluate big data and to respond concurrently with CRM systems [3]. While digital age is a move towards "space economics," along with other scientific fields such as mechatronics, Nanotechnology and genetics etc., some other advancements would impact industry and economy more

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than other technologies. Directly or indirectly. These advances are known as robotics and artificial understanding [4]. The "Industrial Age" was launched primarily in the UK and by the carmakers with the industrial revolution and mechanization [5]. The development of the industrial age and the mechanization and life-still, education, finance and management have all changed due to these effects, including capital, entrepreneurship, labor force, land. These advances are known as robotics and artificial understanding. The "Industrial Age" was launched primarily in the UK and by the carmakers with the industrial revolution and mechanization. Production and the subsequent supply side of industry at the beginning had tremendous impacts on business and economy. Study of Literature and Generation of Hypotheses. The development of the industrial age and the mechanization and life-still, education, finance and management have all changed due to these effects, including capital, entrepreneurship, labor force, land.

White collars and management were included in the agenda for solving new problems, generating higher education needs because of the level of information, decisions and the quality of the workforce required. Workers have begun living in housing estates, large buildings or complexes that direct life styles to live in towns rather than villages in order to be working simultaneously on plants or production lines. The buying mentality and social behavior have improved with incomes and income. In the economic and business fields, automation and artificial intelligence will also launch new sites that bring new life-style and sociological side effects. In his articles, and in the last World Economic Forum (WEF 2015) as well as in the papers, Roubini and Stiglitz have pointed out the possible results and impacts of these impacts.

The increase in joblessness in the economy will be one of the clear impacts. In this business side effect, new robots, which most likely have artificial intelligence, will also be hired or purchased compared to their first movers. This conceptual and hypothesis paper begins with a summary of the principal definitions, trends and latest facts, which continue to shape the economy, business and finances. This paper explores and examines emerging developments and impacts and effects on industry, management and economic trends in a constructive way that could/will be observed in the near future, primarily in a creative and future-oriented manner [6]. Most arguments are still under discussion or could not yet be valid for today. But future, as Jules Verne wrote in his books, is directly linked to imagination and assessment.

## II.LITERATURE REVIEW

Since 2008 global financial chaos, which began with Lehman Brothers ' crash, the first theory was that, as the main reason for growth, poor wealth distribution and population management, the new era known as the ' Space Growth ' has been launched in the World economics and Finance agenda [7].

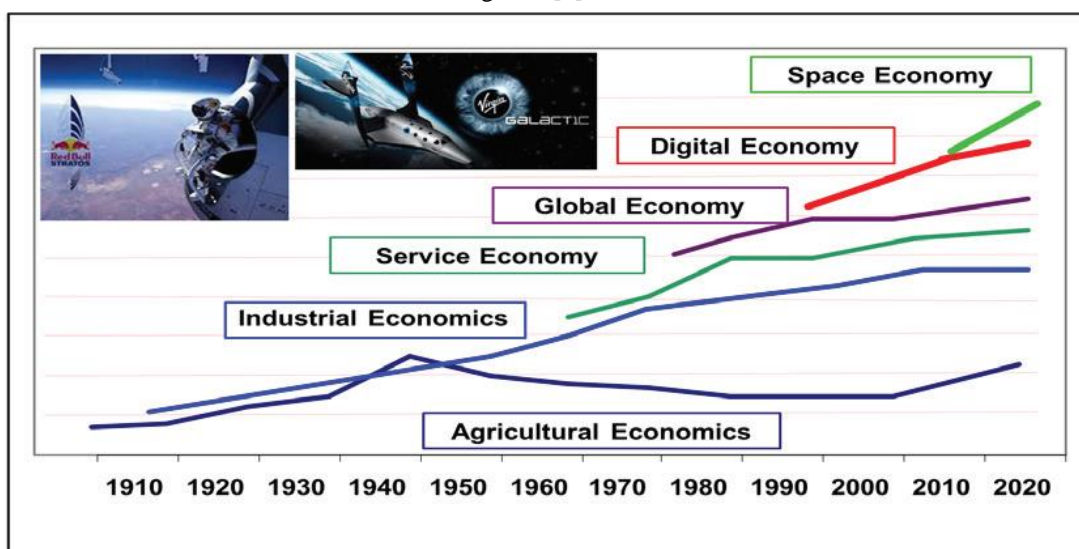


Fig. 1. (a) Main Economics Cycles in 20th and 21s century



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Central banks, primarily responsible for the management of value for money and price stability, played important roles, which they were doing steadily before 2008, by exponentially facilitating money supply and monetary basis expansion after 2008. Government rescue operations and quantitative easing by G-20 and Developing Countries of Central Banks to stop bankruptcies and bankruptcies of banks, financial institutions and national treasuries, end credit crunches, recover financial losses in and around 2008, boost the recovery of the economy, increase GDP, balance and balance of the global economy [8]. In addition to central banks ' balance sheet expands, evolving digital money forms (including liberalization of printing / distributing money and advances in electronic financial services, fast-moving payment systems and non-bank institutions like Wal-Mart, market angels, corporate risk capital and the organization for microfinance [9].

Funding or raising money and venture lending will be much more easy than now, making it much easier to identify and develop startups and small and medium-sized businesses and to improve corporations ' ability to invest in further research, creativity and inventions and introduce new products and technology [10]. Financing and supporting for small and medium-sized enterprises is expected to contribute to the fulfillment of inflation, GDP growth and unemployment ratios in many countries, both in the European Union and in the USA. On the other hand, the use of bitcoins forms of digital currency (e-money) would trigger greater instability in the financial and economic processes, as a big rival for the banks and central banks. (Central) banks ' revenue and seignorage losses will occur unless regulated globally. New technologies are being looked at, based on new phenomena like artificial intelligence; semantic studies; advances in robots and mechatronics; big data and mining; cloud computing, neural Networks or core trends like social media and in the future directions of banking and financial services; society and industry, not limited to governments and relevant organizations. Only by using two options: cost reduction or value-maximization can companies achieve higher profitability and sustainability. Through the help of convergence of these technology, science and science developments, work to achieve these goals would be supported, and obviously in the next few years more discoveries would lead to disruptive changes in business, life and the global economy [11].

Companies with low revenues in income or a decrease in profits and capital returns will seek and pursue increased efficiency, productivity, low-cost production or resource methods and try to respond to the competitiveness and customer demand of new scientific and technological developments. If and when commodities are scarce and prices increase, policymakers in these companies will also look at the cheapest and unlimited, and speed up ' space economy.' In fact, various governmental agencies, such as NASA (the United States National Aeronautics and Space Administration) or ESA (European Space Agency) have already begun to work on artificial alien life discoveries and other Earthlike planets, and new commercial private enterprises [12]. The Space Economy Age has been accelerated by all these initiatives and requirements. Several research projects to touch more stars, far outside Solar System, helping companies indirectly to use most of these innovations, creativity and applications for industrial or commercial purposes. Car manufacturers and the automotive industry who leverage the outcomes of Formula 1 Race should extend them to passenger vehicles. ARPA (Anti-Lock Braking System) car system for a sudden stop of race cars requires, Teflon (Polytetrafluoroethylene, the best-known PTFE-oriented product is Teplon from DuPont Corporation) to not inflame room ARPA, the US Defense Advanced Research Project Agency, the father or internet and Internet technologies to promote strategic connectivity needs in the classified market [13]. Together with NASA and 11 other Universities and Research Institutions, the University of Washington forms a working group to look into intelligent life on other planets. In addition to academic and commercial research, more new technologies will be inventive. Two other ideas at that time are, that the new military knowledge and conflicts are in the space and cyber world. The settlement of mankind in the environment would require new laws and security, as well as new policies.

Amazon.com is a pioneer of robotics and space technologies with drones and is aiming to start its initial space shuttle service by its managing director, Jeff Bezos. The other firms that invest in Drone Technology include Boeing, Google, Lockheed Martin, Northrop Grumman, and AeroVironment and certain definitions of robotics and mechatronics behind drones should be provided at this stage. Robots created at the first time in Prague in 1921 are some human-like anthropomorphic features of IbnSina, an ancient Turkish-Persian scholar. Robotics are described as: Yu and Kodama described Mechatronics as: "The synergistic fusion of mechanical precision engineering, electrical engineering, software engineering and machine thought in product design and manufacturing processes in Japan is the term coined in the late 1960s. Mechatronics is an intellectual device, or a mechanical entity that can work autonomously. A clear theory is that in many sectors of industry and corporate life people and robotics may overtake workers.



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The 2003 Center of Excellence (CoE) at Tokyo Denki University suggested another solution called "Human adaptive mechatronics" to improve animal operational abilities (Yu) across the control loop through a hierarchical human-machine interface. Most jobs, including, but not limited to, sales, operations, production lines, calling-center officers, even security guards will be affected by mechatronics and development in robotics. Toshiba Corporation's female-looking robot AikoChihira gives consumers six-minute advice on the Mitsukoshi department store at Nihonbashi in Japanese. Talking or answering any of the questions posed may be other humanoid consumer robots, including the Bank of Tokyo Mitsubishi UFJ. The banking sector that was hit most by the 2008 crisis is still looking for greater profitability and efficiency. In many agencies, even at the front ends, robotics could be easily implemented. Robots that are supported and enhanced with artificial intelligence may replace agents in contact centers or tellers. However, the claims suggest that robotics and artificial intelligence are used even in controlling tasks and that first comer's support this confirmation. A further means of minimizing costs would be to reduce the distribution of domestic papers between the headquarters and branches by aircraft. On the other hand, banks and companies will employ drone operators like Amazon.com is a good example.

Space Economics ' robotics and mechatronics research is finding alternatives for the industrial use of drone and satellites, missiles, and aviation legislation allowing only governments to use, deploy, and control rockets, aircraft, or space vessels. Some regulations on the commercial and private use of drones have already been proposed and concluded by the US Federal Aviation Administration. Globally, initiatives are taking place just like the one-day conference organized in Zurich in January on the topic "Drones: From the technology to politics, from security to ethics," to try and find solutions and to impart a common understanding. The most recent headlines addressed during the 2015 World Economic Forum in Davos are artificial intelligence and robotics. The danger of increasing unemployment by robotics and technologies, such as artificial intelligence, could be offset by greater efficiency and productivity generated by robots and computers, stated by Roubini and Stiglitz in their studies. The concept of artificial intelligence lies in research, in which robots in many areas can perceive, perform, communicate and function as people with a good attitude. Cloud computing is a network or Internet-based storage environment for shared purposes. The term "cloud computing is a comparatively new business model in the computers world" is based on National Institute of Standards and Technology's (NIST) working definition of cloud computing (NIST report 800-145). According to the formal NIST definition, "cloud computing provides an all-round on-commerce, convenient, on-demand network access model that can be rapidly provided with minimal management efforts or provider interaction to a shared pool of configured computing sources (e.g. the networks, the servers, the storage, apps and services)".

Apple's Siri, a thinking lady that supports the Apple iPhone users, is the rudimentary popular artificial intelligence. A Turkish software developer at center.com produces Google Android artificial intelligence called CEYD-A too. In his paper, Lolli defined artificial intelligence and semantical searching of search engines referring to the book "Sign Theory Basis" by Charles Morris that also identified semiotics for computer engineers and software developers. There are three elements of semiotics: grammar, semanticiz and pragma. Semantic, which is a kind of artificial intuition (AI) that knows the basic needs and terms of the users, and takes into account their purpose and meaning. It is the term used to search the Web of Internet search engines, such as Google, Yahoo. Instead, 'neural networks' can learn and save if supported by similar examples and can provide valid, correct or priority answers through large amounts of data. These can be summarized as a combination of offers, internet, semantic search, artificial intelligence or cloud computing.

One of the suggestions would be that the production lines and organizational charts of companies, as well as of managing directorial boards and personnel management agendas, include robots and drones using huge amounts of information called big data from numerous data bases or connected to cloud computing. Artificial intelligence management. Martin, M., Michael, Michael, Martin, Claude, & M. In the money and capital markets, earlier phases of this assertion could be seen. Enhanced and supported by artificial intelligence robotic features, increasing business process efficiency and productivity by extending real working time up to 7/24, which maximizes the nominal 7/24 advantages of alternative supply channels or sales outlets etc., Porte can be implemented for retail and other companies. On the other hand, though, the displacement of human work powers by robotics and artificial intelligence will be a huge challenge and problem. The most likely effect of computerization in America is a report carried out by Nesta, a London-based nonprofit research & investment organization co-authorized by Oxford University academics.

- a. Translators and interpreters (5.8%)
- b. Performing artists (7%)
- c. Radio broadcasters (7.7%)



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- d. Film and TV producers (8%)
- e. R&D on natural sciences (10.9%)

According to the report named Creativity versus Robots, robot officers, call center staff, libraries, livestock farmers, loggers, miners, car salesmen and hotel personnel are the most open to computerization and jobs to be replaced. Only 21 jobs are highly creative, out of 721 jobs. Stiglitz concluded that the addition of land owners or administrators of human resources to these efficiencies and inventions would lead to a rise in unemployment. The more supply and demand in the economy minimizes, the more money supply and interest rates the central banks limit, the more developments they drive businesses. Further progress gradually replaces lower skilled jobs with highly qualified employees. Because of this and beyond paradox one of the greatest astrophysicists suggested that mankind should start colonization on other planets, for the sake of replacing mankind in industrial and day to day life with artificial intelligence and robots.

The paradox starts at that point. The purchasing power decreased by devalued money and by inflation, people whom wages are down or lost their job cannot save money and will not spend more which will cause deflation. Investors' reluctance to invest in new jobs will decrease due to the short demand of consumers and will cause the problem. The less competition, the more productivity on the supply side is needed. The more supply and demand in the economy reduce, the more money supply and interest rate declines, and the more investment firms are powered by. Controversy: consumers who will profit from these technologies, which will be used efficiently throughout their daily lives and offer other productive services, will also see the consequences of budget deficits, as a result of government spending, of more businessmen like ElonRéeve Musk, CEO of spaceX, and private companies, in those science and developments In launching the Commercial crew program in 2011, NASA responds to these requests from taxpayers. In human intelligence, first and foremost, the digital revolution and eventually the poisonous financial instruments, e.g. derivatives not used in the modern real world economy have already destroyed Life and the economy itself. Deliverables are almost nine times higher than the World GDP, or USD 75 billion as at December 2014, without regard to income inequality as at the time. The volume of derivable is 630 trillion as of December 2014. Central Banks are unable to reimburse governments and companies for their consolidated assets on the emerging and advanced economies, of about US\$ 17.5 trillion and official FERs of around US\$ 40 trillion. That is why governments and companies strive to balance this gap with the real economy and recall that, as Einstein said, the composite interest rate is the world's largest force. Innovation, social media, big data, cloud computing, internet, Internet, mobile, sustainable development, corporate angels, microfinance, crowd funding, electronic financial services, financial inclusion, access to finance are words and first steps to take before the S "Stop Quantitative easing due to Deflation, a deflation the world economy faces, which forecast the stagnation of World GDP in the form of IMF reports. Governments and businesses support and use Apple iPhone, Tesla cars, or Facebook, WhatsApp for value-added services or customer requirements, and productions to recover the economy and balance sheets. The result is that new innovations, inventions, tests, researches are still being made while discussions and new hypotheses are an ongoing agenda due to the nature of these new trends and scientific disciplines. Some of these actions could be summed up with examples. Tesla, one of the designers, invents domestic power plates, which allows massive amounts of energy to be extracted. In other traditional car firms, other innovations or products try to replace petroleum-based solutions are trying to answer their new competitors. NASA is focusing on the smart glass version of Google Glass for space explorers to provide them with assistance during space trips, where repair work or additional information is needed.

Some of the other advances include portable electronic devices, and companies such as e-trade, the major online trading platforms, are almost concurrently using such smart devices. The war against diseases such as cancer or Aids, and the virtual reality of mental illnesses such as depression, phobia, and paranoia are gaining momentum. The German Research Center for Artificial Intelligence (DFKI) in Bremen, Germany, has introduced robotic systems to explore or discover Moon and is working on chimpanzees for their lunar missions. Finally, among the ten emerging technologies in 2015, the World Economic Forum covers robots, artificial intelligence and drones.

## III.CONCLUSION

The paper seeks to provide a foundation for other documents, reports, lectures and inquiries. More academic work backed by quantitative and market research techniques, focused on assumptions and observations in this article, would be the next move to underline business and economic results. Some theories, arguments and proposals still do not occur



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or only at the early stages of its existence. For this reason the majority of sources quoted are from the latest scientific science advances and from the business world, but their conclusions and implications are compatible with the existing literature on progress and technical effects on industry, environment and daily life. By calculating the effect of the value proposition on real-time / online, production, communications, and marketing and personnel costs as well as the financing and cost of capital, companies will be in a more efficient position to manage their profitability and risks by maximizing sales and shipping hours via robotics on distribution channels. By the combination of marketing subheadings in Analytical CRM with customer behavior and neuromarketing with mechatronic convergence, robotics, cloud computing, artificial intelligence, neural networks, customer experience and relationship management, such high-tech products and solutions would shift to the second phase, as "Artificial Intelligence Marketing" was suggested. By integrating subheadings in CRM Analytical environment with customer habits and behavioral marketing, these high-tech approaches and goods will step into the second phase, as indicated by 'artificial intelligence marketing'. These subheadings in analytical CRM context.

Hologram technology will allow retail companies in particular to connect with and meet their clients without any restrictions, such as direct mails, but will also minimize revenues, after sales and delivery costs. Hologram technology can also provide banks and financial institutions with new delivery and sales channels for clients, employees and board meetings etc. Firms and policymakers should be ready to available as soon as possible to carry out such creativity and processes. The move from traditional distribution channels to a business environment based on technology will also have a direct impact on the organizational maps. New CEOs and managers, presidents of IT, engineering, mechatronics, or science graduates would, or would have roots or experience from good science to address new challenges resulting from new terms and understandings and to meet shareholder and regulatory sustainability expectations. On the other hand, innovation and technological developments in addition to organization, lead to the joblessness of low qualified (human) workers. In the next few years there will be significant improvements in the unemployment rate, Phillips Curve, GDP Power Parity, growth, income, management and accounting. The veteran trends in business life are due to the coming of other working forces most of the organizational developments that are already changing forms through e-learning, webinars, gamification and coaching, mentoring and leadership. Employee performance monitoring would be a new issue for administrators of human resources. New approaches should also be implemented to test the workers and the autonomous technologies of companies. There should be new safety rules and guidelines, such as a drone lands in a restricted location or the use of a publicly owned device. The social security and employee benefits would also be followed up. The Space Revolution is certainly the new age and will affect the economy, industry and day-to-day life.

Many classes, theories and books should and should be reviewed. Theoretic, science, ideas and theses, papers and articles. For business and economics, for example, the changes should and should be made. Economics within the boundaries of this universe was definable in Austrian Economics School, Keynes, Marx, etc. Some of the examples that should be regarded as the first examples of recognizing the impacts of space are the International Chamber of Commerce, Incoterms, insurance industry, World Bank, United Nations.

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