**LEVEL 0 SUMMARY**

* **Name of student:** GU Yangmei
* **Name of your Level 1:** Mohamed Anissat
* **Source (e.g. scholars.google.com):** Google scholar
* **Paper title:** Artificial intelligences as a driver of business process transformation
* **Keywords specific to the paper:** “AI”, “business process transformation”

**Summary of the main contributions (Use text paragraphs, tables and if necessary, figures):**

This article discusses on how artificial intelligence is transforming business processes around the world. Along with the Internet of Things, AI can radically change businesses and the entire economy. The purpose is to study AI's role as a driver of business process transformation to achieve higher results faster by overcoming limitations to growth and creating new opportunities. The results confirm AI technologies contribute to business profitability growth in three ways. First, by creating a new virtual workforce through intelligent automation. Second, by increasing physical capital and improving existing workforce skills which better serves customers, allocates employees to more creative tasks, reduces costs and increases incomes. Third, by stimulating innovation through new product and service creation by developers and companies. AI consists of several technologies that can be combined differently to feel, understand, act and learn. AI can improve outcomes through intelligent automation, increased labor and capital, and spreading innovation. Companies already devote significant resources to AI study, development and implementation to offer new innovative products, increase revenue, reduce costs and improve customer service. Initially developed in the 1940s, AI technology has gained momentum in recent decades partly due to low-cost computing power, large data sets, and advanced algorithms. AI impacts business processes across functions. In marketing and sales, as well as supply chain management and production, potential value is greatest. Cognitive understanding reveals patterns in huge data volumes using machine learning like predictive purchasing, fraud detection and personalized marketing. Cognitive interaction enables automatic customer and employee communication through applications. AI helps formulate hypotheses, identify and test new ideas, accelerate incubation periods and create unexpected associations.AI changes many employee skills as data structured and unstructured value is realized. This can effectively improve projects by significantly reducing verification process times associated with design changes. It helps risk managers better assess risk types and anticipate regulatory compliance gaps people may miss. AI accelerates solution development and improves skills. It supports faster, more efficient enterprise software planning, development and testing with greater flexibility. For optimal business process transformation, AI capabilities must address technical, economic and social challenges. Addressing key data problems includes effective governance, defining ontologies, and managing regulatory constraints. AI technologies combined with predictive analytics can complement robotics and automation forms. This contributes to rethinking and completely new business transformation types of emergences. For this international cooperation and analytical center theoretical and practical fields are actively needed, especially in robotics. AI offers conditions improving process efficiency but requires powerful digital sectors directly creating AI technologies. Careful AI introduction into processes is needed since automated solutions can destroy reputation if ethics and regulation do not work properly. Timely assessment of economic indicators related to AI can help managers determine investment timing and state budget shares in its development. Recognizing AI's potentially destructive nature, new problems for economic security and social stability may arise requiring reliable, controlled development minimizing associated risks.

* **AI model used (e.g. Neural network, etc.)**

The document mentions several forms of artificial intelligence, such as semantic understanding, statistical clustering, and classification algorithms like SVM, Bayes, and Neural-Net. These AI technologies are used to solve the problem of information and big data, particularly in the context of intelligent document recognition.

* **Introduce the AI models.**

The document discusses various AI technologies and their impact on business processes, but it does not specifically mention any AI “models”.Here are some key points about AI technologies and their impact on business processes: Artificial intelligence refers to the use of advanced software and algorithms to mimic human cognitive abilities like learning, problem-solving, and decision-making. Common AI technologies include machine learning, deep learning, natural language processing, computer vision, robotic process automation, and expert systems. AI is being applied across business functions like marketing, sales, customer service, supply chain, manufacturing, and finance. Some examples of impact include automating repetitive tasks, gaining insights from large datasets, personalized customer experiences, predicting demand and optimizing inventory, detecting fraud and anomalies, and accelerating tasks like contract review. Adopting AI can improve business outcomes like productivity, efficiency, profitability, and customer satisfaction. Studies show early AI adopters experience benefits like 38% increase in profits on average. Industries like healthcare, education, transportation are seeing major impacts. AI is transforming business models and creating new revenue streams. example, AI assistants are enhancing e-commerce, on-demand services are powered by intelligent algorithms. New AI firms are becoming major competitors. Jobs are evolving as repetitive tasks are automated. While some roles are at risk, AI is also creating new high-skill jobs in roles like AI programming, strategy, ethics and customer support using AI. It's important for businesses to retrain workers. For businesses to succeed with AI, they need a clear strategy and vision, executive buy-in, skills and talent, good data quality, focus on ethics and security, and readiness to experiment and adapt processes with new technologies over time. As AI progresses, its impact on business processes will intensify across more areas like predictive maintenance, optimized logistics, personalized health, education and customer service. Integration of AI with cloud will further drive innovations.

* **How do they contribute the idea proposed by the paper?**

This document highlights that AI technologies contribute to business profitability growth in three primary ways. First, they create a new virtual workforce through intelligent automation. Second, they increase physical capital and improve existing workforce skills, which better serves customers, allocates employees to more creative tasks, reduces costs, and increases incomes. Third, AI technologies stimulate innovation through the creation of new products and services by developers and companies. These technologies, such as intelligent automation, predictive analytics, and cognitive computing, are instrumental in transforming business processes and driving economic growth. AI technologies create a new virtual workforce through intelligent automation, allowing certain repetitive tasks to be automated. They increase physical capital by supplementing and improving the skills of the existing workforce. This helps better serve customers, allocate employees to more creative tasks, reduce costs, and increase incomes. AI stimulates innovation by enabling developers and companies to create innovative new products and services. It removes restrictions in obtaining large datasets for research based on global data sharing. Intelligent automation, predictive analytics, and cognitive computing are instrumental technologies that transform business processes when applied appropriately. When combined with advanced technologies like the internet of things, AI can lead to predictive insights and innovations that drive economic growth for businesses and industries. Overall, the strategic and optimal use of AI technologies in business processes can significantly increase profitability and performance through these multiple avenues like automation, innovation and workforce augmentation. Care needs to be taken regarding implementation, ethics and potential challenges.

* **Supported by a software application? (If yes, provide more details)**

The context seems not supported by a software application.