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The Efficiency Paradox of Artificial Intelligence: A Critical Analysis of Ibn Khaldun's Labor Value Theory Perspective on the Dehumanization of Production

Baitul Hamdi[1], Wahyudin Luthfi Abdullah[2], Sarah Syukri[3]
[1,2,3]Faculty of Economics and Business, Andalas University – Indonesia[2]Author Institution,
Email: baitulhamdi@eb.unand.ac.id wahyuddin.luthfi@eb.unand.ac.id sarah.syukri@eb.unand.ac.id

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Abstract

Purpose: *This study reconstructs Ibn Khaldun's economic thought to address the fundamental challenges presented by the era of Artificial Intelligence and Industry 5.0. It examines the intersection of Labor Value Theory and the concept of Ta'awun to critique the dehumanization of production. The research aims to develop a human-centric production framework that integrates technological advancements with Islamic economic ethical principles.*

Methods: *This study uses a qualitative literature review based on a Contextual Hermeneutics approach. The main data comes from the Book of Muqaddimah by Ibn Khaldun, with additional information from the World Economic Forum (WEF) 2025 and the International Labour Organization (ILO) on Generative AI. The analysis combines Content Analysis and Comparative Analysis to compare employment dislocation statistics with spiritual concepts and Al-Kasb.*

Results *:The findings indicate that prioritizing total efficiency and zero marginal costs through AI substitution may trigger a "Khaldunian Trap," in which the removal of human labor undermines economic value and purchasing power. According to Khaldunian theory, labor constitutes the substance of value; therefore, complete automation generates a value void and diminishes social solidarity (Asabiyyah). Additionally, the "Human-in-the-Loop" model presents a paradox, as it often leads to dehumanization through exploitative microwork. This process undermines the dignity of Kasb and exacerbates structural inequalities, particularly affecting women in the administrative sector.*

Implications: *Consequently, this study recommends that policymakers adopt Industry 5.0 frameworks and AI models aligned with Islamic ethics. Policies must strictly prioritize the development of "labor-augmenting" technologies to prevent social disparity and preserve the integrity of community solidarity.*

INTRODUCTION

Currently, human civilization is on the verge of a profound transformation. Where is the wave of new technological currents known as the Industrial Revolution 5.0, which is supported by the maturity of Artificial Intelligence and autonomous robotics? This wave of technological currents offers an ideal economic promise: the ability to produce in bulk at zero marginal cost. In addition, this technological development also provides an opportunity for humans to be free from the shackles of boring routine work (Rifkin, 2014). However, the goal of the industrial technology wave is only one: efficiency. That is an effort to produce maximum added value for a product with the minimum possible resources. In this frame of mind, conventional economics states that the biggest challenge to achieving efficiency does not come from technology, but from the human

labor factor. The human factor is often considered one of the most expensive, unstable, and difficult-to-manage aspects of production.

Based on the World Economic Forum (WEF) Report in the Future of Jobs Report 2025, it is projected that in the pursuit of efficiency, as many as 170 million new jobs will be created due to the encouragement of the green transition and technology. On the other hand, 92 million traditional roles will be eliminated by AI automation. Although, in aggregate, there is a surplus of job creation, this figure masks painful structural disruptions. Where several types of jobs will be lost, such as administrative roles and routine factory work that have been the backbone of the middle class. Meanwhile, high-skilled jobs are not held by the majority of the workforce, who have shifted roles due to AI (Leopold, 2025).

Furthermore, the International Labour Organization (ILO) notes that 25% of jobs worldwide face a high risk of being replaced by Generative AI. Where this risk jumps up to 34% in high-income countries due to the widespread availability of digital infrastructure (International Labour Organization, 2025). The business sector in administration and customer service is the most vulnerable to AI replacement. To make matters worse, the sector has been dominated by the majority of female workers, so the use of AI risks deepening the gender inequality gap (International Labour Organization, 2025). Thus, the phenomenon will create a condition called the Efficiency Paradox. A situation in which a company becomes more efficient by cutting its workforce in pursuit of profits, while the surrounding community's socio-economic structure weakens.

In response to this, the challenges faced by Islamic economic thought are increasing. So far, discussions about AI are still dominated by formalist or fiqh legal approaches, such as algorithmic transaction laws, the validity of smart contracts, or the status of zakat on digital asset (Hashem, 2025). This condition indicates a significant research gap in fundamental studies, especially those exploring philosophical and macroeconomic aspects. The fundamental question that needs to be answered is no longer just whether replacing humans with machines is legally allowed, but goes further than that. Where other questions, such as whether the action replaces humanism with messiah or AI fulfills the principles of justice (*Adl*) and goodness (*Ihsan*) in building civilization. To answer this question, it is necessary to return to the 14th century and the thoughts of Ibn Khaldun in the Book of Muqaddimah. Ibn Khaldun is not only known as a historian but also as the founder of Islamic economics, which places human beings and their work at the center of all values (Al Mamun et al., 2022). The relevance of his thinking is very important to discuss the

efficiency of AI, which tends to ignore the role of humans in the production process in the current era.

Based on this foundation of thought, this study aims to answer the fundamental question about the relevance of the classical text of Muqadimah by Ibn Khaldun in facing the modern context with the main focus on analyzing how the construction of the Labor Theory of Value and the concept of Social Cooperation (*Ta'awun*) of Ibn Khaldun's thought views the role of humans in the production process. Specifically, this study aims to re-explore the work philosophy (Al-*Kasb*) in Islam as a mandate of the Caliph, rather than merely a means of earning a living. In addition, this study seeks to diagnose the impact of AI beyond statistical unemployment rates and to formulate a new production ethics framework that integrates the spirit of Industry 5.0 with the principles *of Maqashid Syariah.*

Through this discussion, this research is expected to make a theoretical contribution to the field of Islamic Economics by examining and elaborating on Ibn Khaldun's thoughts in addressing the challenges posed by Artificial General Intelligence (AGI). In practice, the results of this analysis can serve as a reference for policymakers in designing fair labor regulations and preventing uncontrollable social disruption.

Actually, a lot of research has been done on Ibn Khaldun's economic thought, but most of it focuses on monetary policy, taxation, and history in general. On the other hand, discussions about artificial intelligence (AI) in Islamic economics are more often dominated by technical matters, such as *fintech* or robot fiqh law. Unfortunately, not many have specifically sat down to dissect Ibn Khaldun's basic philosophy of work (*Kasb*) and social solidarity (*Asabiyyah*) in relation to the humanitarian impact of AI. While other studies view technology as merely a tool for efficiency, this study highlights the significant risks when the role of humans is completely replaced by AI. The novelty of the research is a solution to ensure AI technology is not left to run wild, but is controlled so that it remains in accordance with human nature and the workings of society.

METHODS

Types and approaches

This research is qualitative research - a library research. To bridge classical thought with modern issues, a Contextual Hermeneutics approach is employed through Fazlur Rahman's theory of the Double Movements (Malik, 2025). This research begins by reading the text of the book of Muqaddimah in the context of 14th-century history to understand Islamic economic principles,

such as the importance of labor. Then the book's findings on calcique are brought into the 21st century to address the latest phenomena, such as AI and the Gig Economy.

Data Source

Data collection was carried out by reviewing the literature, which was divided into two main categories: the primary, which refers directly to the text of Muqaddimah by Ibn Khaldun, and the secondary, which explores core concepts such as *Kasb* and Value Theory. And secondary sources are drawn from credible journals and reports from global institutions, such as the WEF Future of Jobs Report 2025, the ILO Generative AI and Jobs 2024, and European Commission documents, to capture the reality of the latest technological impacts.

Data Analysis Techniques

Data analysis was conducted using a combination of Content Analysis and Comparative Analysis techniques. In this process, modern statistical data is juxtaposed with Ibn Khaldun's normative proposition. In data research on job loss, it is not only seen as a financial loss but is also analyzed through the lens of Kasb *loss* to visualize its spiritual and social impact. The conclusion finally addresses the problem formulation regarding the form of dehumanization in technology and provides more humane production solutions.

RESULTS AND DISCUSSION

1. Reconstruction of Ibn Khaldun's Production Theory: Human Beings as Value Actors

Before discussing the impact of AI, it is very important to put Ibn Khaldun's economic thinking back in its place. Often, he is considered only a historian, even though he was the first thinker to systematically assert that labor is the only legitimate and sustainable source of value.

Without Humans, There Is No Value

In contrast to the Physiocrats, who considered land the main source of wealth, or the Mercantilists, who worshipped the accumulation of gold, Ibn Khaldun in the Muqaddimah offers a perspective far beyond his time. He emphasized:

"*Profit is the realized value of human labor... If there is no labor, then there will be no income and no benefits will be* obtained" (Khaldun, 2011).

This statement has a deep philosophical meaning. For Ibn Khaldun, material objects are only a potential. It is recognized as property (mal) only when it has been touched by human effort (*Kasb*). Therefore, the idea of full automation through machines and AI replacing the role of

humans in the production chain is not just a matter of efficiency, but a severe inequality in the distribution of value. Although capital (machines and AI algorithms) can be seen as legitimate accumulated labor (*Mal Mutaqawwam)* in Islam, its absolute dominance can give birth to structural inequality. In Ibn Khaldun's view, economic value must flow and revolve through the mechanism of wages for direct labor (living labor). When production is completely dominated by machines, the value is not lost, but accumulates or is concentrated in the owners of capital, thus breaking the cycle of income distribution that is a condition for market vitality. Indeed, the product may have utility, but it loses its social value as a means of equitable income and welfare distribution.

Working as a Social Glue

Ibn Khaldun did not view economic activity as an isolated individual action in a vacuum. Interestingly, he had introduced the concept of division of labor long before Adam Smith formulated it. However, there is a very fundamental difference in orientation between the two. If Adam Smith emphasized specialization in the pursuit of increased productivity, Ibn Khaldun saw specialization as an absolute means of building social solidarity (*Asabiyyah*). This mechanism works through human limitations. A blacksmith does not have the ability to cultivate crops, nor does a farmer who cannot afford to forge his own equipment. These limitations "force" individuals to cooperate. This interdependence then weaves a strong social safety net. As affirmed in Muqaddimah:

"*The ability of one individual person is not enough to meet his own food needs... Therefore, cooperation from fellow human beings is absolutely necessary*" (Khaldun, 2011).

In this modern era, the greatest challenge for *Asabiyyah* is not the loss of interaction between people, but the erosion of interdependence. Although the digital age facilitates the formation of various online communities, these communities tend to be artificial and transactional. This characteristic is clearly contrary to the concept of *Asabiyyah* initiated by Ibn Khaldun, which was born from real daily activities and the existence of mutual needs.

This condition is exacerbated by the emergence of digital exclusivity, in which companies can accumulate wealth independently using AI without involving other human roles or labor. This will basically break the chain of social solidarity. When this interdependence is removed from economic activities, the bonds of solidarity become fragile, ultimately leading to cracks in society's structure.

2. The Anatomy of Dehumanization in an AI-Based Economy

Based on Ibn Khaldun's thoughts, an evaluation can be conducted regarding the use of AI in economic activities. The term dehumanization is a criticism to explain how AI can erode human values in economic activities. In fact, humans are the main actors in economic relations to achieve prosperity (Al Mamun et al., 2022). The existence of this dehumanization is an early warning that there has been a shift in values, where the role of humans as economic actors is not considered important, but is instead considered a burden of costs or inefficiencies that must be eliminated, because humans are considered sluggish and have a high or inefficient cost burden.(Н.И. et al., 2022). This dehumanizing practice has similarities with capitalist economic principles, namely that everything is measured by numbers, thereby neglecting the qualitative aspect (Guerrero & Alberto, 2024).

In the end, this condition will give rise to 'non-intentional dehumanization', in which the presence of AI will erode the human side of its users, as AI is created without feeling (Gun & Guest, 2023). So that it will impact economic decision-making, given that decisions made by machines or AI ignore moral or ethical considerations (Cordova, 2024). If left unchecked, when humans have been completely replaced by machines or AI, this will have an impact on economic stability through technological unemployment, which will have an impact on the loss of the true meaning of working as a noble human activity in order to meet the needs of life and tazkiyatun nafs (Cuizon et al., 2024)

Structural Disruption and Gender Inequality

The ILO 2024 report highlights that the impact of AI is not neutral. About 25% of global jobs are highly exposed to Generative AI, with the highest concentration on clerical and administrative work.

Table 1

Exposure to Generative AI Risk Based on Country Income Level

Country Categories	Job Exposure Rate (%)	Most Affected Sectors	Khaldunian Implications
High-Income Countries	34%	Administration, Admin, Finance, IT	The disappearance *of Kasb* in the educated middle class

Low-income countries	13-18%	Agriculture	The risk of a global gap is widening
Global (Average)	25%	Customer Service, Data Entry	Global Erosion

Source: Processed from ILO 2024 and WEF 2025 Data

The data shows that AI is affecting sectors that have helped people move up socially. Women are especially at risk because many work in administrative roles (International Labour Organization, 2025). From an Islamic point of view, this challenges distributive justice (Adl) and puts vulnerable groups at a disadvantage.

Dehumanization of Process: The Human-in-the-Loop Paradox

Although AI is often described as a sophisticated technology capable of operating independently, in reality, these systems remain highly dependent on human labor. This paradox is evident in the application of the Human-in-the-Loop (HITL) model. The concept, aimed at allowing humans to supervise this machine, has, in practice, evolved into a new field of exploitation known as "microwork" (Casilli, 2021). A condition where millions of workers, especially in developing countries, are recruited through digital platforms just to label data (data annotation) in order to train machine intelligence. Their tasks tend to be tedious, repetitive, and fragmented (Winques & Magnolo, 2024).

This results in a major problem: the status of the work. Where these workers are often only considered independent contractors, that is, a position with minimal wages, no health insurance, and no social protection (Posada, 2021), even though many of them are actually highly educated (Tubaro, 2022). Their hard work is deliberately made invisible so that AI technology appears magical and smart on its own, even though there is human sweat behind it.

From Ibn Khaldun's perspective, this condition is a form of lowering the degree of employment (*Kasb*). Unlike craftsmen in the past who had freedom and pride in their work (craftsmanship), these digital workers actually experienced alienation. They are treated like ghosts in machines, doing small tasks without ever being truly recognized as dignified human beings in the economic chain.

3. Critical Analysis: Ibn Khaldun Challenges AI

Kasb Degradation: The Loss of the Spiritual Essence of Work

Working in Islam is not just an activity to meet economic needs, but also as a suggestion of worship that gives souls known as *tazkiyatun nafs*. Where in the work process human character is formed, if this process is completely replaced by machine automation or AI, then humans will lose this opportunity (Hidayat & Suraijiah, 2025). In response to this, based on Ibn Khaldun's Thought, the advancement of AI-based economic technology tends to prioritize efficiency or Zero Marginal Cost. It is feared that it will end up in a situation in which a person's wealth increases but their spiritual value decreases. As a result, there will be a shift in the role of human beings from active producers to passive consumers, which is contrary to the concepts of homo economicus and homo islamicus.

Erosion of Solidarity: The Collapse of Asabiyyah in the Digital Age

Fact in the field shows that technology giants have amassed huge wealth while hiring relatively few workers, worsening the inequality gap. Research shows that advances in technology speed up capital growth, but people working in traditional sectors are left behind (Qiu & Liu, 2023). In the United States, just 1% of the population now controls almost 20% of the national income, a sharp increase from ten years ago (Chin & Culotta, 2014). The global picture is even more unequal, with 8% of people holding 85% of the world's wealth (Estes, 2019). The rise of digital gig work has worsened this problem, as these platforms generate significant economic value but do not raise workers' wages in line with that value (Nardi, 2015).

In a more substantive view, this inequality is not just a statistical number, but a poison that dilutes the bonds of social solidarity. The psychological burden of living in a highly unequal society has been shown to reduce health and trigger instability(Plamondon, 2022). Furthermore, this dividing gap threatens the joints of democracy and social peace (Butterwegge, 2024). When the majority of people feel marginalized from the distribution of economic benefits, the seeds of the collapse of civilization begin to grow luxuriantly.

The study of the collapse of tyrannical power that Ibn Khaldun described, caused by fiscal pressure (tyrannical taxation), fits well with today's digital economy, although it operates through different mechanisms. If Khaldun warns that suffocating taxes will kill the incentives to produce (supply-side), then the replacement of mass labor by AI will weaken, and even suppress, people's consumption capacity (demand-side). This is what the author calls the Demand-Side Reflection of the Khaldunian Trap. When the industrial sector imposes full automation through machines and

AI to cut costs (this is similar to the rulers cutting taxes), they are unconsciously destroying their own market base, the working people who will lose wages, and thus weaken the purchasing power in the market.

The Khaldunian Trap: The Mechanism of Economic "Suicide"

As the main finding of this study is that it identifies a similarity in the pattern between Ibn Khaldun's theory of the collapse of a civilization and AI-based economic risks. This phenomenon is referred to in this study as the Khaldunian trap. Where in the Muqaddimah did Ibn Khaldun formulate a cycle of state collapse triggered by oppressive and excessive fiscal policies that shut down work incentives, thereby decreasing production and ultimately destroying state income (Al Mamun et al., 2022)

High Taxes→ , Loss of Work Incentives,→Production Decline→, Tax Base Disappearance→, State Collapse

This classic pattern turns out to have the same logical structure as the impact of machine dominance or AI in the modern era. When corporations fully implement AI automation in pursuit of profits, they inadvertently trigger a destructive cycle of job loss and lost wages, which automatically collapses people's purchasing power. Without purchasing power, market demand will disappear, leading to a crisis in which goods abound but no one can afford them (overproduction & underconsumption).

Dominance of Machines or Ai (For Profit)→Loss of Wages (Work Incentives)→ Purchasing Power Decline →Market Demand Vanishes→Over-production & Under-consumption Crisis

This is in line with Khaldun's explicit warning that"

"*Attacks on people's property (including access to livelihoods) remove the incentive to acquire property. People will leave their country... and the state will be destroyed due to the loss of productive population* " (Khaldun, 2011)

In the contemporary context, companies that eliminate the role of humans without a safety net are actually committing economic suicide. Although they may be efficient in terms of production costs, the market will collapse due to demand-side inequality, just as a dynasty collapses when it loses its taxpayers.

4. Harmonization of Man and Machine: Khaldun's Value Perspective

In an effort to avoid the trap of the Khaldunian Trap, it cannot be done with a reactive attitude of rejecting technology (Luddite). On the contrary, a fundamental reorientation is needed

toward technology development itself. The concept of Industry 5.0, which embodies the spirit of Human-Centricity, must be grounded in Islamic values as described by Ibn Khaldun. Here is the framework of the solutions offered:

Paradigm Transformation from Labor-Replacing to Labor-Augmenting

In Islam, work is not a means to earn a living but more than that because it is also a means to cleanse the soul (tazkiyatun nafs). This will be achieved through discipline and hard work that shape a person's character and morality. However, a problem was born when machine automation and AI began to dominate almost all production activities. Which causes humans not only to lose their jobs, but also to lose vital opportunities to form character and the means to cleanse their souls (Hidayat & Suraijiah, 2025). Responding to the risk of this loss of value, Ibnu Khaldun through his thinking criticized the AI-based economic model which tends to be obsessed with achieving efficiency or Zero Marginal Cost. Where this based economic approach risks giving birth to a paradox of the accumulation of material wealth increases, while spiritual value decreases. As a result, the role of humans shifts from an active producer to a passive consumer. Of course, this shift is contrary to the concept of satisfaction in Islam, which should come from the glory of effort, not solely from the enjoyment of consumption.

Distributive Justice Mechanism through Digital Asset Zakat and Algorithmic Tax

When AI takes over the role of value creation in the economic chain, it shifts the burden of social obligations. This refers to the principle of distributive justice in Islam, which holds that wealth should not circulate solely among the rich (Maulidya et al., 2025).

مَآ اَفَآءَ اللّٰهُ عَلٰى رَسُوْلِهٖ مِنْ اَهْلِ الْقُرٰى فَلِلّٰهِ وَلِلرَّسُوْلِ وَلِذِى الْقُرْبٰى وَالْيَتٰمٰى وَالْمَسٰكِيْنِ وَابْنِ السَّبِيْلِۙ كَيْ لَا يَكُوْنَ دُوْلَةًۢ بَيْنَ الْاَغْنِيَآءِ مِنْكُمْۗ وَمَآ اٰتٰىكُمُ الرَّسُوْلُ فَخُذُوْهُ وَمَا نَهٰىكُمْ عَنْهُ فَانْتَهُوْاۚ وَاتَّقُوا اللّٰهَۗ اِنَّ اللّٰهَ شَدِيْدُ الْعِقَابِۘ ?

Whatever Allah bestows upon His Messenger from the inhabitants of several lands is for Allah, the Messenger, the relatives, the orphans, the poor, and the travellers. (Thus) so that the wealth does not circulate only among the rich among you. What the Messenger gave you, receive. What he forbids you, leave behind. Fear Allah. Indeed, Allah is very harsh in His punishment. (QS. Al-Hashr: 7).

Therefore, the country needs to formulate progressive Islamic fiscal and philanthropic instruments(Ikram & Kepli, 2018)). Instead of getting caught up in the debate over the status of robot legal subjects, policies can be directed toward *Zakat Mustaghallat* (zakat on productive assets) or the application of an excess profit tax resulting from automation efficiency. Within the framework of Maqashid Sharia, this instrument is not intended to punish innovation, but rather serves as a mechanism of *tadhhiyah* (sacrifice of property) to restore the disturbed balance of

distribution. This ensures that the gigantic added value generated by the AI algorithm still serves a social function, just as water must flow to prevent it from rotting.

Then, in terms of distributing the funds collected, they should be allocated as Universal Basic Capital, authorized capital to support the sustainability of micro businesses(Amalia et al., 2023). This mechanism serves to maintain the stability of the people's economy while preventing demand-side collapse as feared in Ibn Khaldun's theory. However, implementing this policy requires serious governance reform to address regulatory gaps, so that the spirit of social justice does not stop at discourse (Fahrudin, 2024).

Muamalah Ethics in a Human-in-the-Loop System

The existence of the Human-in-the-Loop (HITL) system in the development of industrial technology 5.0 must be situated within the corridor of muamalah ethics, in accordance with Islamic teachings. Where humans who work behind the scenes of the artificial intelligence system must receive guarantees of transparency, fair wages (*ujrah mitsl*), and protection against exploitative practices(Tubaro, 2022). This principle actualizes *the value of Ihsan* in work. So that, by applying this muamalah ethics, technology returns to its original function, namely as a means of achieving human welfare (*falah*), rather than a tool that actually satisfies human values, causing losses for those who work behind the scenes (Patil et al., 2025)

CONCLUSION

This part consists of two (2) sub-parts: the conclusion of the article and suggestions or recommendations from the research. Conclude the article critically and logically based on the research findings. Please be careful in generalizing the results. The authors should also state the research limitation in these parts. Generally, the conclusion should explain how the research has moved the body of scientific knowledge forward. In suggestion, please describe the author's recommendations for further studies regarding the author's research implication.

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