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WORK IN THE AGE OF ARTIFICIAL INTELLIGENCE: BETWEEN THE RISK OF EXCLUSION AND OPPORTUNITIES FOR HUMAN ADAPTATION

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Abstract. Global labor markets are undergoing a profound transformation, as artificial intelligence (AI) is no longer a marginal technical innovation but has become central to organizational processes within institutions. This study examines the dual impact of AI on work: is it a threatening force displacing traditional jobs, or an enabling tool that fosters human-machine collaboration and enhances professional performance? The paper seeks to answer a pivotal question: to what extent does AI pose a threat to conventional employment, and can it be turned into an opportunity to reintegrate humans into the labor market in a fairer and more sustainable way? Drawing on an interpretive qualitative approach, the study relied on semi-structured interviews conducted with 22 employees from various sectors (administration, education, services, technology) in Arab countries, who provided firsthand insights into AI's impact on their work, institutions, and career paths. The theoretical analysis was built on two opposing currents: The technological substitution theory, which views AI as a threat to routine and repetitive jobs. The human-machine collaboration theory, which regards AI as an opportunity to develop human skills and improve productivity. This dual framework enabled the study to move beyond the traditional binary perspective and encompass a more complex and varied reality. The findings revealed a widespread sense of

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anxiety about job loss, especially in sectors where technology is being adopted haphazardly without clear strategies or institutional preparedness. Some employees reported a lack of training and upskilling, which exacerbated confusion and fear. Conversely, others demonstrated adaptive behaviors, such as learning AI tools or shifting their skills toward more creative and analytical domains, underscoring the importance of individual initiative in confronting technological challenges. One of the most notable outcomes is the absence of a clear national or institutional strategy in many Arab countries for the responsible integration of AI. Unlike advanced economies that are developing policies for reskilling and embracing hybrid roles, many developing nations face the risk of widening the digital divide due to insufficient readiness and weak investment in human capital. The study concludes that the real danger does not lie in AI itself but in the lack of sound governance and a proactive vision to ensure that AI serves human development. It recommends comprehensive reforms, particularly in education and training systems, to cultivate lifelong learning, flexibility, and creativity, thereby enhancing individuals' capacity to adapt to a transforming labor market. This study offers an original academic contribution at the intersection of the sociology of work, labor economics, and digital transformation, while highlighting the realities of the Arab region often absent from global AI debates. It calls on policymakers to shift the narrative from fear to opportunity by building inclusive systems in which humans and algorithms jointly shape the future of work.

Keywords: Artificial Intelligence, Labor Market, Job Replacement, Employees, Arab countries

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ТРУД В ЭПОХУ ИСКУССТВЕННОГО ИНТЕЛЛЕКТА: МЕЖДУ РИСКОМ ИСКЛЮЧЕНИЯ И ВОЗМОЖНОСТЯМИ АДАПТАЦИИ ЧЕЛОВЕКА

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Абстракт. Глобальные рынки труда переживают глубокую трансформацию: искусственный интеллект (ИИ) больше не является маргинальной технической новинкой, а занял центральное место в организационных процессах внутри учреждений. В настоящем исследовании рассматривается двойственное влияние ИИ на труд: является ли он угрозой, вытесняющей традиционные рабочие места, или же это инструмент, способствующий сотрудничеству человека и машины и повышению профессиональной эффективности? Работа стремится ответить на ключевой вопрос: в какой степени ИИ представляет угрозу для традиционной занятости и можно ли превратить его в возможность для справедливого и устойчивого возвращения человека на рынок труда? Исследование основано на интерпретативном качественном подходе с использованием полуструктурированных интервью, проведённых с 22 сотрудниками из различных сфер (администрация, образование, услуги, технологии) в арабских странах. Респонденты поделились личным опытом влияния ИИ на их работу, учреждения и карьерные траектории. Теоретическая основа опиралась на два противоположных направления: Теория технологического замещения, рассматривающая ИИ как угрозу для рутинных и повторяющихся видов труда. Теория сотрудничества человека и машины, рассматривающая ИИ как возможность развивать человеческие навыки и повышать продуктивность. Такой двойной теоретический каркас позволил

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выйти за пределы традиционного бинарного взгляда и охватить более сложную и многогранную реальность. Результаты показали распространённую тревогу по поводу потери рабочих мест, особенно в секторах, где технологии внедряются хаотично и без чёткой стратегии или институциональной готовности. Некоторые сотрудники сообщали о нехватке обучения и повышения квалификации, что усиливало ощущение растерянности и страха. В то же время другие продемонстрировали адаптивное поведение, например, освоение инструментов ИИ или переключение на более творческие и аналитические направления деятельности, подчёркивая важность личной инициативы в ответ на технологические вызовы. Одним из наиболее значимых выводов стало отсутствие чёткой национальной или институциональной стратегии в большинстве арабских стран по ответственному внедрению ИИ. В отличие от развитых стран, разрабатывающих политики по переквалификации и поддержке гибридных ролей, развивающиеся страны сталкиваются с риском расширения цифрового разрыва из-за недостаточной готовности и слабых инвестиций в человеческий капитал. Заключение исследования гласит: реальная опасность кроется не в самом ИИ, а в отсутствии надлежащего управления и проактивного видения, которое обеспечило бы использование ИИ в целях развития человека. Авторы рекомендуют комплексные реформы, в частности в сфере образования и профессиональной подготовки, для развития навыков непрерывного обучения, гибкости и креативности, что позволит людям лучше адаптироваться к меняющемуся рынку труда. Данное исследование вносит оригинальный академический вклад на стыке социологии труда, экономики занятости и цифровой трансформации, а также акцентирует внимание на реалиях арабского региона, которые часто остаются вне глобальных дискуссий об ИИ. Исследование призывает политиков изменить фокус с угроз на возможности, создавая инклюзивные системы, в которых человек и алгоритмы совместно формируют будущее труда.

Ключевые слова: Искусственный интеллект, рынок труда, замещение рабочих мест, сотрудники, арабские страны

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SÜNİ İNTELLEKT DÖVRÜNDƏ ƏMƏK: İSTİSNA OLUNMA RİSKLƏRİ İLƏ İNSANLARIN ADAPTASIYA İMKANLARI ARASINDA

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Abstrakt. Qlobal əmək bazarları köklü transformasiyadan keçir; süni intellekt (Sİ) artıq kənar texniki yenilik deyil, müəssisələrdə təşkilati proseslərin mərkəzinə çevrilmişdir. Bu tədqiqat Sİ-nin əmək fəaliyyətinə ikili təsirini araşdırır: bu texnologiya ənənəvi iş yerlərini sıradan çıxaran təhdid mənbəyidirmi, yoxsa insan–maşın əməkdaşlığını gücləndirən və peşəkar fəaliyyətləri yaxşılaşdıran imkan vasitəsidirmi? Məqalədə əsas sual belə qoyulur: Sİ ənənəvi məşğulluq üçün hansı dərəcədə təhlükə təşkil edir və bu texnologiya insanları əmək bazarına daha ədalətli və davamlı şəkildə reinteqrasiya etmə imkanı kimi necə istifadə oluna bilər? Tədqiqat interpretativ keyfiyyət yanaşmasına əsaslanaraq, ərəb ölkələrindən olan müxtəlif sahələri (idarəetmə, təhsil, xidmət, texnologiya) təmsil edən 22 əməkdaşla aparılmış yarı-strukturlaşdırılmış müsahibələrə söykənmişdir. Respondentlər süni intellektin onların işi, müəssisəsi və karyerası üzərindəki təsirləri barədə birbaşa fikirlər bildirmişlər. Teorik təhlil iki ziddiyyətli yanaşma üzərində qurulmuşdur: Texnoloji əvəzləmə nəzəriyyəsi, hansı ki Sİ-ni rutin və təkrarlanan işlər üçün təhdid kimi qiymətləndirir. İnsan–maşın əməkdaşlığı nəzəriyyəsi, Sİ-ni insan bacarıqlarını inkişaf etdirmək və məhsuldarlığı artırmaq imkanı kimi dəyərləndirir. Bu ikili çərçivə tədqiqata ənənəvi ikili yanaşmanın həddlarından kənara çıxmağa və daha mürəkkəb, çoxşaxəli

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reallığı əhatə etməyə imkan verdi. Tədqiqat nəticələri göstərdi ki, xüsusilə texnologiyanın plansız və strategiyasız tətbiq olunduğu sektorlarda iş yerlərinin itirilməsi ilə bağlı geniş narahatlıq mövcuddur. Bəzi əməkdaşlar hazırlıq və ixtisasartırma imkanlarının olmamasından şikayət edərək bu vəziyyətin çəşqınlıq və qorxuya səbəb olduğunu bildiriblər. Bunun əksinə olaraq, bəzi şəxslər süni intellekt alətlərini öyrənmək və ya bacarıqlarını daha yaradıcı və analitik sahələrə yönəltmək kimi adaptiv davranışlar nümayiş etdirmişlər ki, bu da texnoloji çağırışlara fərdi təşəbbüslə cavab verməyin əhəmiyyətini vurğulayır. Ən mühüm nəticələrdən biri odur ki, bir çox ərəb ölkəsində süni intellektin məsuliyyətli şəkildə inteqrasiyasına dair aydın milli və ya institusional strategiya yoxdur. Yenidən ixtisaslaşdırma və hibrid rolları əhatə edən siyasətlər hazırlayan inkişaf etmiş ölkələrdən fərqli olaraq, inkişaf etməkdə olan ölkələr kifayət qədər hazırlıq və insan kapitalına zəif investisiyalar səbəbindən rəqəmsal uçurumun daha da dərinləşməsi riski ilə üzləşirlər. Tədqiqatın nəticəsinə görə, təhlükə Sİ-nin özündə deyil, onun insan inkişafına xidmət etməsini təmin edəcək sağlam idarəçilik və qabaqlayıcı vizyonun olmamasındadır. Bu səbəbdən, tədqiqat təhsil və təlim sistemlərində geniş islahatlar aparılmasını tövsiyə edir ki, bu da ömürboyu öyrənmə, çeviklik və yaradıcılığı inkişaf etdirərək fərdlərin dəyişən əmək bazarına uyğunlaşma qabiliyyətini artırsın. Bu tədqiqat əmək sosiologiyası, əmək iqtisadiyyatı və rəqəmsal transformasiya sahələrinin kəsişməsində orijinal elmi töhfədir və qlobal Sİ debatlarında tez-tez nəzərdən qaçırılan ərəb regionunun reallıqlarını diqqətə çatdırır. Məqalə siyasətçilərə çağırış edir ki, qorxu narrativini imkan narrativi ilə əvəz edərək, insanların və alqoritmlərin birgə əməkdaşlıq etdiyi inklüziv sistemlər formalaşırsınlar.

Açar sözlər: Süni intellekt, Əmək bazarı, İş yerlərinin əvəz olunması, Əməkdaşlar, Ərəb ölkələri

1.Introduction

Throughout history, work has been more than a means of living. It has been an expression of our identity and often a symbol of value. Labour has always mirrored society's changes that aids in development from tribal to industrial society. The human is still the thinker, the doer and the good person; no matter the tool. Nevertheless, modern experiences look quite different from before. In the modern world, transformation is about more than tool adoption; it's about changing the work itself. The long-held belief in the superiority of the human being in Pro-fessional spheres has been attacked through machines that think and decide. Artificial intelligence has moved from the laboratory to the very essence of major occupations like education, medicine, man-agement, industry, and art. The evolving technology raises fundamental issues about the human role in the algo market. Also, it raises worries about "technological unemployment" happening not because of the economy but because of better non-humans.

The debate is divided into two fronts.

The first camp believes that artificial intelligences are a big threat to employment. Especially, to the routine jobs. It will make the man machine operator redundant. On the other hand, the second camp argues that artificial intelligence can be a partner. This would allow us to shift from menial tasks to more creative and interesting ones. Developing countries find themselves in a difficult situation. They are not fully digitally developed. Yet, they are confronted by an environment of artificial intelligence that requires the possessions of advanced knowledge systems and new skill sets and job flexibility. The above situation raises important questions that how these countries would face the challenges that come by the artificial intelligence. Will they face it with fear or with a competent and informed readiness?

This research paper discusses how automation and artificial intelligence affect work, especially the tension between exclusion and inclusion and threat and offer. It rests on sustained theoretical analysis and qualitative field research, including interviews with employees experiencing this transformation, in order to give an accurate account of reality beyond institutional narratives and theoretical frameworks.

How much do artificial intelligence and automation threaten, or offer an opportunity to reshape, the future of work? The paper will try to answer this question- not from a narrow technical angle, but from the perspective of the human being: one who feels, fears, hopes, works and wishes to remain central to the equation rather than pushed to the margins.

Problem of the Study

Today, technology not only aids humanity; it is as powerful and competitive in reshaping civilization, work, and knowledge. Artificial intelligence has

evolved into a mirror reflecting an extremely volatile professional future, wherein some jobs lose their meaning, new ones- previously unbeknownst- are generated, and static skills become a burden, while flexibility and continuous learning emerge as rare currencies. In the midst of this scenario, existential questions arise that go beyond technology itself and touch on the human condition: Does work still fundamentally retain its intrinsic humanity? Can a society build its economy on the basis of collaboration between man and machine without excluding one for the other? And are we witnessing the onset of an era characterized not only by those who are "skill-deficient" but also by those who lack opportunities for learning or requalification?

Research Problem

Based on the foregoing, the central issue of this paper revolves around the following question: To what extent do artificial intelligence and automation pose a direct threat to the displacement of traditional jobs, and when might they transform into an opportunity for intelligent integration that reshapes the labor market in a manner that is both more equitable and sustainable?

Sub-Questions

In light of the profound transformation currently underway in the labor market, it is no longer sufficient to simply ask, "Will jobs remain?"; rather, it becomes essential to inquire: Which jobs will remain? For whom? And under what conditions? The shift initiated by artificial intelligence is not a straight line that uniformly excludes everyone; it is rather a complex network of changes that redistributes professional value and tests both the adaptability of individuals and the responsiveness of institutions.

An attempt to understand this transformation necessitates breaking it down into precise sub-questions that reveal its depth and extent, thereby enabling the formulation of hypotheses that facilitate verification and interpretation rather than sweeping generalizations.

- What industry is more likely to be displaced by artificial intelligence? Is the threat widespread or confined to routine things with a computer?
- Which human skills cannot be done using machines? Can we say emotional intelligence and creativity are defenses in one's profession?
- How informed are employees about the changes that will be taking place? Are these changes met with resistance, acceptance, or silent resignation?
- What is the difference in displacement and integration opportunities in developed and developing countries? Does the gap in online readiness feed the global skills gap?

Hypotheses

Artificial intelligence is not merely a technology, but also a cognitive and organizational force that changes work rules and roles within institutions. Through field-tested interviews with 22 employees from Arab countries, and on the basis of four main hypotheses, the study examines changing human-machine relationships and the contribution of automation to vocational transformation.

Hypothesis One: Job loss due to AI will not be the same for everyone. Only those jobs which involve a routine and repetitive activity without the need for human interaction or creativity will suffer.

Hypothesis Two: Jobs that depend on intuition, creativity and emotional intelligence are the least amenable to automation. Thus, jobs that are more human-centred are likely to be relatively safe in the medium term.

Importance of the Study

The importance of this study derives from both time and context; we are not experiencing a mere technological change but rather living through the new cognitive and industrial revolution of artificial intelligence- one that is transforming the notions of work, skill and competition. Many institutions in developed countries are gradually working on integration of artificial intelligence in their frameworks while Arab environments are still dealing with these developments with either a lot of anxiety or dangerously neglected.

Accordingly, this paper represents a scientific attempt to understand the phenomenon from the perspective of the working individual- not solely from that of decision-makers- through a qualitative analysis that transcends raw statistics to truly listen to the pulse of reality. Moreover, the study adopts a forward-looking approach; it does not settle merely for describing change but rather explores ways to steer it toward a responsible integration of human and technological capabilities, as opposed to an automatic exclusionary logic.

In light of these factors, the study offers an original research contribution at the intersection of professional sociology, labor economics, and artificial intelligence technology, thereby enriching both theoretical literature and practical applications- especially in Arab contexts that increasingly suffer from a widening digital divide.

Objectives of the Study

- To analyze the current state of employment in the context of the evolution of artificial intelligence and automation.
- To identify the jobs and skills that are most vulnerable to displacement, as well as those that remain adaptable and capable of development.
- To assess the level of awareness among workers regarding the risks and opportunities posed by artificial intelligence.

- To evaluate the readiness of institutions- particularly in developing countries- to confront the challenges of digital transformation.

Methodology and Limitations of the Study

In view of the nature and complexities of the subject, this study adopted a qualitative, interpretive, and analytical approach grounded in extrapolating the deep attitudes and perceptions of workers toward the transformation induced by artificial intelligence in the workplace. The initial strategy involved designing a comprehensive quantitative questionnaire and analyzing its results with statistical tools (such as SPSS) to generalize the findings to a broader base and to compare trends across sectors. However, as the conference date approached- and given our strong commitment to offering a timely and scientifically relevant contribution- the research team encountered several field-related obstacles, notably:

- The limited time available to conduct the quantitative study as required.
- The difficulty in securing a broad and diverse sample that would respond to the questionnaire within the restricted timeframe.
- The reluctance of several professional bodies to participate, owing to the sensitivity surrounding issues of employment and its future.

In response to these challenges, and driven by a realistic as well as methodologically flexible stance, the research instrument was revised to rely on semi-structured interviews, which were deemed the most appropriate means under the given time and field conditions. Interviews were conducted with a purposive sample comprising 22 employees from various sectors (including services, administration, education, technology, etc.), thereby enabling us to listen directly to the voices of the workers- to gauge their concerns, reactions, and the pressing questions they face.

Structure of the Study

This study adopts a structured approach that integrates both theoretical and practical perspectives to examine the relationship between artificial intelligence and work. It begins with an introduction to key concepts, followed by the development of a theoretical framework contrasting the theories of technological displacement and intelligent integration. The research includes a review of existing studies on automation risks and comparative experiences, complemented by qualitative interviews with employees to explore their perceptions and responses to AI in the workplace, culminating in an analysis that contextualizes findings within the Arab environment.

The study concludes with a summary that encapsulates the key findings, practical recommendations, and a reflective critique of the study, as well as indicating potential avenues for future research that may employ broader quantitative approaches and extend to new professional sectors.

Previous Studies

A review of existing literature on artificial intelligence and the labor market is a critical preliminary step in comprehending the theoretical and practical contexts on which this paper is based. Studies in this area have varied between quantitative approaches, based on the analysis of large datasets, and qualitative approaches that focus on professional perceptions and psychological shifts. In this section, we review three key studies- two of an international scope and one emerging from the Arab environment.as shown in table 1 below.

Table 1. A Review of Three Fundamental Studies: Two International and One from the Arab Context

| | |
|--------------------|--|
| Study Title | The Future of Employment: How Susceptible Are Jobs to Computerization? |
| Authors | Frey & Osborne (2017) [1] |
| Framework | University of Oxford – Quantitative Analysis |
| Problem Statement | Measuring the likelihood of job displacement due to automation in the U.S. labor market |
| Methodology | Statistical analysis of 702 occupations using machine learning algorithms |
| Findings | Approximately 47% of U.S. jobs are at high risk of automation over the coming decades Administrative tasks, transportation, and customer service roles face the highest threat |
| Recommendations | Invest in human-centered, creative, and interactive skills that are less likely to be automated |
| Study Title | The Future of Jobs Report |
| Authors | World Economic Forum (2023) [3] |
| Framework | Annual international report |
| Problem Statement | Tracking global labor market shifts between job displacement and job creation |
| Methodology | Comprehensive survey of over 800 companies across 45 countries |
| Findings | 83 million jobs are expected to be displaced, while 69 million new roles may emerge by 2027 Artificial intelligence is identified as the primary driver of transformation, followed by digitalization and the green energy transition |
| Recommendations | Promote the development of digital and analytical skills Strengthen lifelong learning initiatives within organizations |
| Study Title | The Impact of Artificial Intelligence on the Future of Employment in the Arab World |

| | |
|-----------------|--|
| Authors | Abdulghany (2022) [6] |
| Framework | Cairo University |
| Problem | Assessing the readiness of Arab labor markets to face the challenges of automation |
| Statement: | |
| Methodology | Descriptive analysis of employment indicators in Egypt and the Gulf states |
| Findings | A severe shortage of qualified professionals capable of working alongside AI technologies Government policies largely neglect market preparation for technological transformation |
| Recommendations | Launch national vocational training programs Update technical university curricula to align with emerging technologies |

This study highlights the structural transformation of the labor market due to artificial intelligence, focusing on both human and analytical dimensions through field interviews. It engages with the Arab context, unlike most international studies that primarily analyze Western models, and integrates a dual theoretical framework connecting substitution and integration.

Thus, this paper complements previous studies while adding a localized human perspective that highlights an often-overlooked aspect in digital reports: the voice of the worker- not just market statistics.

2.The Theoretical Framework: From Substitution to Integration

The study explores the impact of artificial intelligence on the labor market, focusing on theoretical perspectives rather than numerical data. It employs two complementary models: Technological Substitution Theory and Human-AI Collaboration Theory, to analyze the current situation from risk and opportunity perspectives.

First: Technological Substitution Theory

a) **Background and Vision:**

This theory is based on the assumption that technological advancement does not necessarily create new jobs but rather displaces existing ones, replacing them with more advanced technologies. This perspective gained prominence during the Industrial Revolution and evolved in contemporary literature, particularly in the research of Frey & Osborne (2017), which highlighted that 47% of jobs in the United States are at risk of automation.

b) **Core Tenets:**

- Jobs centered on repetition and learnable analysis are vulnerable to automation.
- The cumulative impact of technology results in widespread job losses, particularly in industrial and administrative sectors.

- Educational systems fail to keep pace with these shifts, creating a "skills gap" that ultimately leads to unemployment.

c) **Critique of the Theory:**

- It overlooks human adaptability and the potential for individuals to reinvent their roles.
- It operates within a deterministic framework, assuming artificial intelligence is a total replacement rather than an assistive tool.

Second: Human–AI Collaboration Theory

a) **Background and Vision:**

This theory emerged as a direct response to the exclusionary nature of the previous model, arguing that artificial intelligence should be harnessed to support human workers rather than replace them. Institutions such as McKinsey and Harvard Business Review advanced this notion, particularly in the research of (Davenport & Ronanki ,2018) [4].

b) **Fundamental Principles:**

- Artificial intelligence executes simple or analytical tasks, while humans retain decision-making roles and engage in complex interactions.
- The future of work will be based on shared tasks between humans and machines.
- Institutional success hinges on adaptive skills rather than mere technological investment.

c) **Limitations of the Theory:**

- It assumes the existence of robust knowledge infrastructure and organizational digitization, which are not universally available, especially in developing nations.
- It presupposes a level of psychological and professional readiness among workers that may not be present in reality.

Third: The Overlap Between the Two Theories in Light of This Study

The study reveals that professional realities are a blend of both models, with some sectors exhibiting a trend towards substitution, like management and services, and others embracing integration, like education and creative analysis. This suggests a "hybrid phase" in the labor market, where human-machine negotiation continuously redefines role boundaries.

Fourth: Bill Gates and the Vision of "Collaborative Intelligence"-Between the Fear of Substitution and the Hope for Integration

In the theoretical discourse on the relationship between artificial intelligence and labor, Bill Gates' perspective given his status as one of the world's leading technology pioneers cannot be overlooked.

In his seminal article, "*The Age of AI Has Begun*" (2023), published on his official website Gates Notes, he provides a nuanced and balanced analysis of

the challenge at hand. He does not frame artificial intelligence as "the end of humanity" but rather as a catalyst for reconstructing the human role, contingent upon redesigning the relationship between machines and workers within what he terms "collaborative intelligence".

Gates states: "AI will change the way people work, learn, travel, get health care, and communicate with each other. Entire industries will reorient around it. Businesses will distinguish themselves by how well they use it" [2].

The Human-AI Collaboration Theory suggests that artificial intelligence should not replace jobs, but rather serve as an epistemic partner, allowing humans to focus on their unique capabilities like intuition, creativity, and emotional interaction, rather than a substitute [5].

Gates suggests AI could impact 80% of jobs, but the challenge lies in technology's pace relative to society's adaptability. Two options are requalifying human capital or allowing AI to evolve independently, creating a knowledge and societal gap.

3.The Future of Entrepreneurship in the Age of Automation and Artificial Intelligence

Entrepreneurship, traditionally linked to seizing opportunities and transforming ideas into projects, has evolved into a competitive arena in the era of artificial intelligence, where intelligent systems can analyze markets, generate content, forecast demand, and make strategic decisions.

The study found that entrepreneurs have contrasting views on AI, viewing it as an opportunity to reduce costs, accelerate production, and expand market reach, but also fear losing their human advantage in conceptual thinking and creativity.

The paradox highlights the ongoing transition phase in Arab entrepreneurship, where mastering artificial intelligence may lead to market exclusion, while successfully integrating AI into product marketing, data analysis, and customer service provides a competitive edge.

Interview Results

The interviews conducted with 22 employees from various Arab countries (including Egypt, Algeria, Saudi Arabia, Jordan, Tunisia, Iraq, Libya, Syria, Mauritania, ...) yielded a wealth of knowledge and a diversity of viewpoints reflecting the multiplicity of economic contexts and disparities in the readiness of institutions to adapt to artificial intelligence. These interviews were analyzed using an open thematic coding approach to extract the core themes that recurred in the personal and professional experiences of the participants.

First: The Concern Over Job Displacement – The Silent Present

Eighteen out of the 22 participants expressed clear anxiety about losing their jobs or experiencing a diminished role with the introduction of artificial intelligence technologies. The vast majority in sectors such as management,

finance, education, and services voiced that their roles are “slowly eroding”. One employee in the transportation sector remarked, “We feel that decisions are now being made by algorithms rather than by managers”.

Second: Disparity in Institutional Preparedness Between Countries and Sectors

Participants in Gulf states, particularly Saudi Arabia, were more aware of digital strategies, but lacked institutional vision for integrating AI into work environments, while those in North African and Levantine countries had limited-scale initiatives.

Third: New Skills from Self-Initiative Versus the Lack of Guidance

Only 10 of the 22 participants indicated that they had begun learning artificial intelligence tools on their own, such as ChatGPT, automation tools, or advanced Excel. The remaining majority confirmed that they lacked any genuine training program within their institutions, which further reinforces the sense of impending exclusion.

Fourth: Variations in Workers’ Perceptions of Artificial Intelligence

Around 7 participants expressed cautious optimism about the potential of artificial intelligence to improve work environments, while others exhibited skepticism due to role ambiguity and lack of institutional safeguards. One employee in the digital education sector noted the lack of guidance on its use.

Fifth: The Gap Between Technical Preparedness and Human Vision

The interviews established that most institutions focus on buying technology rather than training people to use it. Technological advancement lapses against professional development, changing artificial intelligence into an ‘external force’ or ‘external partner’ rather than an internal one.

4. Answering the Study Hypotheses in Light of the Interviews

First Hypothesis: " suggests that job loss caused by AI is not for all jobs but only for jobs that entail routine and less human interaction."

Verification: The job interviews of the employee confirmed the hypothesis. Users in administrative support and services sectors fear losing their jobs to robots. On the other hand, the people who belonged to the education and creative sector were not as worried. They view AI as not possessing the powers for any task that requires human judgment or emotional involvement.

Second Hypothesis: "Jobs that rely on creativity, professional intuition, and human interaction remain less vulnerable to complete automation."

Verification: Interviews indicate that artificial intelligence (AI) is incapable of producing or managing classroom interactions; i.e. AI is ineffective in teaching, training and digital content creation. AI can write text but does not understand culture. It needs to continue to monitor after production phase.

Third Hypothesis: "indicates that in developing countries the institutional readiness to adapt to artificial intelligence is sub-limited which may pose a threat of exclusion rather than inclusion".

Verification: According to interviews conducted in Algeria, Iraq, Jordan, and Egypt, there do not appear to be clear institutional strategies in place. In contrast, anyone working for a public institution uses advanced digital technologies. They do so without having been properly trained or involved. This has led to people being sidelined and not understanding the technology they are using.

5. Discussion of the Results in Light of Theoretical and Field Hypotheses

The analysis of the interviews involving 22 employees from various Arab countries revealed a high degree of variance in perceptions, anxiety, and readiness to adapt to artificial intelligence. These qualitative data allowed for the direct testing of the study hypotheses and their connection to the dual theoretical framework based on technological substitution and human–AI collaboration [7].

First: On the Hypothesis of Substitution in Routine Jobs

The interviews revealed that routine and administrative jobs, such as accounting, human resources, and customer service, are the first to show signs of displacement due to the introduction of artificial intelligence tools, supporting the technological substitution theory and the hypothesis that risk affects automatable tasks.

Second: On the Resilience of Interactive and Creative Jobs

Interviews reveal that while AI is fast, it cannot replicate human touch in decision-making or understand cultural contexts. However, fields like education, design, and supervision still enjoy protection. These findings support the human-AI collaboration theory, emphasizing the value of non-material skills in AI-human interaction [8].

Third: Between the Absence of Training and the Presence of Adaptability

The interviews indicate that employees can adapt if given opportunities and support, supporting the fourth hypothesis. However, current policies do not fully realize this, suggesting that institutions and decision-makers should develop training models to mitigate job shocks.

Analytical Conclusions

Based on the foregoing, it is evident that the study's hypotheses have withstood field testing to varying degrees. The results indicate that the Arab labor market is undergoing a delicate transitional phase between the logic of substitution and that of integration, which implies that any policy lacking a human dimension is doomed to fail, and any framework that excludes workers amounts to forced digital displacement.

6. Between Technological Certainty and Human Anxiety:

This study presents us with a major paradox: work is no longer merely a space for performing tasks, but rather an arena for conflict and negotiation between humans and algorithms that learn and excel in silence. The rapid transformations have demonstrated that artificial intelligence is neither transient nor neutral; it is a force that redefines what it means to be an employee, to possess a skill, or even to have a professional future.

The interviews revealed that employees in the Arab world recognize the transformation, yet they are not actively involved in shaping it. Artificial intelligence is viewed either as a silent threat or as an unobtainable opportunity, all in the absence of educational and professional policies that keep pace with this development [9].

7. Conclusion:

Between Man and Algorithm... Who Will Invent Tomorrow?

The nature of work as we once knew it is no longer the ultimate goal, nor is the skill set taught in self-help books the guarantor of success. In the era of artificial intelligence, the boundaries between what is human and what is machine are disappearing, and the old definitions of the labor market are collapsing like buildings in the wake of a silent earthquake. This study has revealed that the real threat does not lie in the technology per se, but in the human silence in the face of its advance and the institutional resignation from the responsibility of training and guidance. Artificial intelligence does not exclude humans because it wishes to, but because it is assigned tasks for which they are no longer qualified. Those who do not develop their tools are replaced by them. Those who do not negotiate with the algorithm find it becomes their supreme manager and the programmer of their professional destiny. Yet this is not a call to panic, but to awaken. The interviews conducted with 22 employees from various Arab countries showed that humans still have their voice, their doubts, and their desire to remain active rather than passive spectators. What algorithms have not yet managed to do is to dream, to fear, and to question—and this human trilogy is the source of every work, every innovation, and every value. From this human perspective arises the question of entrepreneurship: Are we witnessing the death of individual initiative, or the birth of a new generation of entrepreneurs who not only innovate projects but also reinvent themselves?

Entrepreneurship in the age of artificial intelligence is evolving from merely possessing capital to understanding the machine's inner workings, engaging it in dialogue, and directing it to serve an idea driven by dreams rather than algorithms. Those who achieve this are ahead of the need for displacement, leading to new visions for work, jobs without fixed patterns, and success measured by human ability in a market increasingly populated by machines.

Artificial intelligence will not decide our future; we decide whether to use it or to be used by it.

Recommendations:

From Adaptation to Empowerment

In light of the results uncovered by this study, and with the recognition that artificial intelligence is not merely a technological evolution but a comprehensive civilizational transformation, it becomes imperative that the response to this change is formulated not on the basis of reaction but according to a strategically aware vision. Given that the greatest danger lies in surrender, the following recommendations aim not only to mitigate the impact but also to create a future work environment that is more equitable, efficient, and innovative.

Recommendations for Decision-Makers and Public Policy:

- Develop national strategies for the digital transformation of the labor market, integrating artificial intelligence within a comprehensive vision that considers technical, ethical, and social aspects.
- Launch national programs for requalification and retraining that focus on non-material skills: creativity, critical thinking, and emotional intelligence.

Recommendations for Institutions and Companies:

- Transform artificial intelligence from a threat into a productive partner by involving employees in the design and implementation of digital transformations.
- Establish in-house training units for artificial intelligence tools, and update job descriptions in line with the new work environment.

Recommendations for Individuals and Employees:

- Learn basic artificial intelligence tools as part of everyday life skills, not merely as a professional option.
- Adopt a mindset of continuous learning, rather than relying solely on past expertise as a guarantee of a stable professional future.

Special Recommendations for Entrepreneurship:

- Initiate funding and consultancy programs for smart entrepreneurship, targeting young people and innovators who integrate artificial intelligence into their start-ups.
- Integrate artificial intelligence as a fundamental training component within incubators and accelerators.

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