Organizational Culture Post-Pandemic in Egypt: Exploring the Role of Artificial Intelligence and SDGs

الثقافة التنظيمية ما بعد الجائحة في مصر: استطلاع دور الذكاء الاصطناعي وأهداف التنمية المستدامة

Iman Mohamed Zahra *
imy_zahra@cu.edu.eg

Abstract

The rise of technological intervention in every organizational aspect post-pandemic coincided with the Egyptian government's efforts to digitally transform Egypt's economy, through inaugurating the National Artificial Intelligence Strategy (NAIS). Post-pandemic necessities deepen the use of AI technologies to transform the economy, adhere to SDGs, and thus go beyond just adopting technology (ai.gov.eg).

The primary focus of AI economic introduction is to locate solutions in government services, agriculture, manufacturing, healthcare, finance and economic predictions, and natural language processing. Another emphasis is training school children, postgraduate students, and professionals in the latest AI technologies, regulations, ethics, and use cases.

On the other hand, a recent study from MIT Sloan Management Review and Boston Consulting Group (November 2021) found that 79% of respondents who saw improvements in efficiency and decision quality because of AI also saw improvements in morale and *other cultural areas*, organization-wise.

Looking more deeply into the cultural impact of AI, the study found that companies using AI reported improvements across four key cultural elements: collaboration, collective learning, clarity of roles, and team morale. This demonstrates that technology decisions are most

* **Professor at Public Relations and Advertising Department - Faculty of Mass Communication - Cairo University.**

effective long-term and widely beneficial when the “people factor” is taken into consideration during the decision-making process.

Based on the former study and applying the findings on sectors most targeted by NAIS strategy and thoroughly applying SDGs, i.e., services and small industries, to shorten the innovation cycle, and test facilities for advanced industrial production and financial organizations, and to support financial inclusion efforts, the current study aims at detecting the relationship between AI use post-pandemic in banks and SMEs (Small and Medium Enterprises), adherence to SDGs and the organizational culture of those corporations. An organization's culture defines the proper way to behave within the organization and reflects the role of innovations subjected to media industries. This culture consists of shared beliefs and values established by leaders and then communicated and reinforced through various methods, ultimately shaping employee perceptions, behaviours, and understanding, which the current study predicts are much changed by AI introduction of the designated organizations in Egypt.

Exploring the websites, and social media accounts and interviewing leadership of the purposive study sample, showed that flourishing AI solutions and adherence to SDGs can strengthen organizational culture at both the team and organizational levels. Understanding and managing the link between culture, SDGs, AI use, and organizational effectiveness became critical to their success and evidence of modernizing media studies in the organizational communication field.

Keywords: Organizational culture, SDGs, AI, National Artificial Intelligence Strategy, SMEs.

ملخص:

تزامن صعود التدخل التكنولوجي في كل الجوانب التنظيمية ما بعد جائحة كورونا مع جهود الحكومة المصرية لتحويل الاقتصاد المصري إلي اقتصاد رقمي، من خلال تدشين الاستراتيجية الوطنية للذكاء الاصطناعي، حيث عمقت ضرورات ما بعد الجائحة استخدام تقنيات الذكاء الاصطناعي لتغيير المسار الاقتصادي، والالتزام بأهداف التنمية المستدامة، وبالتالي تجاوز مجرد الاعتماد علي التكنولوجيا(ai.gov.eg) .

وينصب التركيز الأساسي للذكاء الاصطناعي اقتصاديا على إيجاد الحلول الذكية في مجال الخدمات الحكومية والزراعة والتصنيع والرعاية الصحية والتمويل والتنبؤات الاقتصادية ومعالجة اللغات الطبيعية، كما ينصب التركيز أيضا علي تدريب أطفال المدارس وطلاب الدراسات العليا والمهنيين على أحدث تقنيات الذكاء الاصطناعي واللوائح والأخلاقيات وعرض حالات الاستخدام.

من ناحية أخرى، وجدت دراسة حديثة أجرتها MIT Sloan Management Review وBoston Consulting Group (November, 2021) أن 79% من المشاركين الذين لاحظوا تحسينات في الكفاءة وجودة اتخاذ القرار بسبب الذكاء الاصطناعي، لاحظوا أيضًا تحسينات في الروح المعنوية والمجالات الثقافية الأخرى علي المستوي التنظيمي.

وبالنظر بشكل أعمق إلى التأثير الثقافي للذكاء الاصطناعي، وجدت الدراسة أن الشركات التي تستخدم الذكاء الاصطناعي شهدت تحسينات عبر أربعة عناصر ثقافية رئيسية: التعاون، والتعلم الجماعي، ووضوح الأدوار، ومعنويات الفريق، وهذا يدل على أن القرارات المتعلقة بالتكنولوجيا تكون أكثر فعالية على المدى الطويل ومفيدة على نطاق واسع عندما يؤخذ "عامل الأفراد" في الاعتبار أثناء عملية صنع القرار.

ومن ثم، بناءً على الدراسة السابقة وتطبيق النتائج على القطاعات الأكثر استهدافًا (أي الخدمات والصناعات الصغيرة والمتوسطة) من خلال استراتيجية NAIS والتطبيق الشامل لأهداف التنمية المستدامة، لتقصير دورة الابتكار، واختبار المرافق للإنتاج الصناعي المتقدم والمنظمات المالية، ودعم الشمول المالي، تهدف الدراسة الحالية إلى الكشف عن العلاقة بين استخدام الذكاء الاصطناعي خلال فترة ما بعد الجائحة في المؤسسات الخدمية المالية والشركات الصغيرة والمتوسطة، والالتزام بأهداف التنمية المستدامة وبين الثقافة التنظيمية لتلك الشركات، حيث تحدد ثقافة المؤسسة الطريقة الصحيحة للتصرف داخل المنظومة وتعكس دور الابتكارات التي تطور الصناعات الإعلامية. وتتكون هذه الثقافة من معتقدات وقيم مشتركة ارساها القادة وتم تعزيزها من خلال أساليب مختلفة، مما يؤدي في النهاية إلى تشكيل تصورات العاملين وسلوكياتهم وفهمهم، والتي تؤكد الدراسة الحالية أنها تغيرت كثيرًا من خلال إدخال الذكاء الاصطناعي في المنظمات في مصر.

وأظهرت النتائج أيضا من خلال استكشاف المواقع الإلكترونية وحسابات وسائل التواصل الاجتماعي وإجراء المقابلات مع المؤسسات عينة الدراسة، أن الحلول التي يقدمها الذكاء الاصطناعي والالتزام بأهداف التنمية المستدامة قامت بتعزيز الثقافة التنظيمية على مستوى الفريق والمستوى التنظيمي، وأصبح فهم وإدارة العلاقة بين الثقافة وأهداف التنمية المستدامة واستخدام الذكاء الاصطناعي والفعالية التنظيمية أمرًا بالغ الأهمية لنجاح المؤسسات ودليلًا على تطور الدراسات الإعلامية في مجال الاتصال التنظيمي.

<u>الكلمات المفتاحية:</u> الثقافة التنظيمية؛ أهداف التنمية المستدامة؛ الذكاء الاصطناعي؛ الاستراتيجية الوطنية للذكاء الاصطناعي؛ الشركات الصغيرة والمتوسطة.

Introduction

Research on artificial intelligence (AI) began at Dartmouth College in 1956. Textbooks define AI as a non-human system that perceives its environment and takes actions to maximize the probability of achieving its goals. More colloquially, the term AI is used to describe computations that mimic human cognitive functions, such as "learning" or "problem-solving" (Ing and Grossman, 2023:2). Business organizations are currently adopting AI to meet various business needs, especially customer service, such as virtual assistants, conferencing, and monitoring employees. Other popular reasons for adopting AI include social data mining, human resources automation, enhancing products and services, and translating languages (Itie, 2022).

The COVID-19 pandemic has brought the digital transformation of organizations to the forefront (Lu et al., 2022). In the Arab World, technology post-pandemic would be crucial for governments as they seek to get people back to work while safeguarding their health. In particular, artificial intelligence (AI) played a major role by helping to limit the spread of infection and boost the efficiency of embattled organizations (Hajj et. Al, 2020). According to Stanford University Human-Centered Artificial Intelligence, investment in AI-focused private companies remained strong during the pandemic. Total global investment in AI grew 40 percent from 2019 to 2020, compared with only about a 12 percent jump from 2018 to 2019. The AI industry also witnessed strong hiring growth during the pandemic. Across 14 countries analysed, the AI hiring rate was 2.2 times higher in 2020 than 2016, on average. More dollars are flowing into AI startups, up 9.3 percent from 2019.

Beyond the pandemic, AI is expected to grow within and across industries, moving from fast adopters such as automotive manufacturing and financial services risk-management to less tech-focused industries, functions, and geographies (Waiker, 2021).

Not only has the pandemic contributed to accelerating the pace of digital transformation and the growth of demand for the communications and information technology industry, but also consolidated the devotion to digital transformation as a basic business model in the private sector, in addition to changing the nature of jobs in

light of the growing demand for specialists in data sciences, cybersecurity, artificial intelligence, and other technological functions (Alaa-El Din, 2022).

Moreover, digital transformation is the mainstay in achieving comprehensive and *sustainable development goals SDGs*, dealing with climate challenges, increasing the efficiency of administrative systems, and providing job opportunities (Alaa-El Din, 2022).

As far as the Egyptian Government is concerned, in efforts to accelerate digital transformation, in November 2019, the Egyptian government formed the National Council for Artificial Intelligence as a partnership between governmental institutions, prominent academics and practitioners from leading businesses in the field of AI.

The council is in charge of outlining, implementing and governing the AI strategy in close coordination with the concerned experts and entities. The council's main responsibilities reside in the following as mentioned in (https://mcit.gov.eg/en/Artificial_Intelligence): outline the National AI Strategy **(NAIS)**, provide follow-up mechanisms for implementing the National AI Strategy in a way that copes up with international best practices in this field, identify national priorities in the area of AI applications, recommend national policies and recommendations pertaining to the technical, legal and economic framework of AI applications, promote cooperation both regionally and internationally which includes exchanging best practices and expertise, identify AI applications that provide smart, safe and sustainable solutions and services, review international protocols and agreements in the field of AI and recommend capacity building programs and boost the skills and knowledge of national calibers.

As part of the NAIS and MCIT activities, officials highlighted "Artificial Intelligence and the Arab World's post-pandemic future as one of the major ramifications of the pandemic. Concerns also revolved around the role of Arab startups in building the AI economy, and how the pandemic urged institutions in the Arab world to accelerate the adoption of AI. Another key topic discussed in the NAIS agenda would be post-pandemic future trends and initiatives. In this regard, the extent to which Arab governments are willing to actively participate in building the AI economy to address future challenges, was a focal

pillar, especially with the importance of adapting AI for both institutions and individuals in the Arab region, would be addressed (MCIT, 2022).

Amidst robust governmental and institutional innovations post-pandemic towards accelerating AI adoption and SDGs enhancement, guided by NAIS, comes a crucial obstacle, as according to Kaspersky research, there are concerns among employees in the Middle East, Turkey, and Africa regarding AI and automation systems used by companies. Around half (44%) of employees in Egypt are afraid of losing their jobs to AI. At the same time, many employees pointed out the positive aspects that AI brings to them, i.e.: efficiency of production processes, open opportunities for employees to retrain for more interesting and higher paid positions, and reducing the likelihood of accidents due to the human factor (Daily News Egypt, 2023).

Those contrasting attitudes urge the need for a strong pro-AI organizational culture to assist the strong positive relationship between organizational culture, AI capabilities, and organizational performance post-pandemic. The current research elaborates on the drastic change in the organizational culture of Egyptian organizations post-pandemic and how AI's massive introduction followed by SDGs fulfillment altered the organizational culture landscape for good.

To fulfill this analytical objective, an in-depth analysis of NAIS pillars and enablers is presented to prove the hypothesis of AI's governmental support. Second, a full view of the landscape of organizational culture post-pandemic is elaborated on, followed by the major findings pertaining to the field research of the study sample. Discussion will follow.

AI Adoption Post-Pandemic in a Myriad of Sectors and the Role of SDGs

The accelerated acceptance and deployment of digital technologies (especially Artificial Intelligence-AI) occasioned by the COVID-19 pandemic is a pointer to the role technology has to play in societies today. Public and private entities significantly increased the use of or

employed several AI tools, digital platforms, big data, and robotics as public service delivery tools, education platforms, or work-based solutions during and post the global pandemic crisis. This clearly demonstrates that AI and other disruptive technologies are fast becoming critical foundations that enable human flourishing (Eke et. Al, 2023).

According to the analysis of experts, the pandemic has reduced the duration of the technology adoption process for individuals and companies to one-fifth of the period required before the pandemic. A study by The Organisation of Economic Cooperation and Development found out that nearly 70% of small and medium enterprises (SMEs) globally have intensified their efforts for digital transformation. An increase in percentages of digital transformation ranging between 50-70% compared to pre-pandemic levels is salient. Those efforts are accompanied by a growing consumption of digital content by citizens (Alaa-El Din, 2022).

The trend towards digital transformation in education has increased and the importance of digital skills at all levels has increased, including providing digital services, providing access to the internet, creating mechanisms for remote work, as well as increasing interest in innovation and training. Applications have been developed using AI and Sustainable Development Goals have been widely sought (Alaa-El Din, 2022).

The National AI Strategy (NAIS) - which came into effect post-pandemic - aims to leverage AI technologies for *sustainable development* in Egypt. In December 2023, the National Council for AI discussed the upcoming phase of the strategy, aligning it with generative AI advancements, particularly in big data models and their applications. With the first phase concluding in May 2024, the Council focused on improving the national AI indicator across six key pillars: governance, ecosystem, information infrastructure, data, human resources, and technology. The dedication to advancing AI technologies targets the betterment of society, *sustainable development*, and the creation of innovative solutions. (MCIT, 2023: 37-38).

The strategy works to accelerate the implementation of development programs and projects to reach the future, relying on

artificial intelligence in services and data analysis at a rate that may reach 100%, in addition to improving government performance, accelerating achievement, creating an innovative work environment, creating a new promising market in the region with high economic value, and supporting private sector initiatives and increasing productivity (draya-eg.org, 2023).

Organizational Culture Post-Pandemic

The year 2021 presented business leaders with plenty of catastrophes, including the pandemic and digital transformation acceleration. As the world proceeded further into 2022, learnings over the past years provided opportunities for growth, synergies and even reinvigorated organizational culture. Often, organizations look to technologies like AI to empower these journeys forward (Bruhn, 2022). AI is difficult to implement without the organizational culture that drives the 'people' aspect of strategy (Chetty, 2019).

The use of AI is one of the keys to achieving sustainable company success. This is because, through AI, employees can be assisted in improving their abilities and competencies so that a greater contribution to achieving the company's business goals can be made. AI applications, play a key role in helping organizations with learning cultures to achieve employee success by increasing employee capabilities and competencies. In this way, AI not only improves learning efficiency but also shapes a positive learning culture in companies, contributing to the long-term success of employees and the organization in general (Antonius et al., 2023:1556).

Reviewing the literature, some factors were identified that impact management's decision to utilize AI in their business strategies. Factors such as trust, performance evaluation, recruiting, and monitoring are significant constructs that have emerged from the research, particularly in the perspectives of AI adoption. However, organizations face challenges in adopting AI due to the lack of knowledge of how and where to implement AI technologies (Itie, 2022), and therefore there has been a growing need for research on factors/practices influencing the successful adoption and usage of AI and its applications, mainly in organizational culture (Dahabreh, 2023).

A recent report from MIT Sloan Management Review and Boston Consulting Group found that 79% of respondents who saw improvements in efficiency and decision quality because of AI also saw improvements in morale and other cultural areas (Ransbotham et al., 2021). Looking more deeply into the cultural impact of AI, the study found that companies using AI reported improvements across four key cultural elements: collaboration, collective learning, clarity of roles, and team morale. This demonstrates that technology decisions are most effective long-term and widely beneficial when the "people factor" is taken into consideration during the decision-making process (Bruhn, 2022).

Organizational Culture is increasingly important to business success and in the post-pandemic era, this fact doubled, especially with AI introduction.

Bruhn (2022) argues that building and maintaining a company culture that resonates with team members encourages them to aspire to a collective goal is an ever-evolving mission, and one that is unique to each organization. Before the pandemic, IT decisions were often made by those who may never use the technology. In other instances, technologies were deployed in business units, without considering how they might benefit others in the organization. If IT decision-makers considered what technologies their team needed, the implementation, adoption, and success rate could increase, which ultimately aids in boosting team morale. That's why 70% of digital transformation initiatives fail, in part, due to a lack of consideration of the "people dimension".

Literature Review

The upcoming literature review will tackle two major pillars as core concepts: Governmental Orientation regarding AI and related Sustainable Development Goals; and Organizational Culture Studies post-pandemic in light of the recent automation innovations and AI capacity. The literature review will conclude with the two closest research papers to the current study.

Governmental Orientation regarding AI and related Sustainable Development Goals

As previously discussed, Egypt's National Artificial Intelligence Strategy (NAIS) was launched in July 2021 i.e. post-pandemic. The strategy would be implemented in a phased approach to fulfill market needs and prove the value of AI in the different strategic sectors, as well as active participation in international organizations on topics such as AI Ethics, *AI for SDGs*, and the impact of AI on labour markets and education. The National Council for AI (NCAI) oversees the implementation of the strategy (NAIS, 2021).

The National AI Strategy executed by The National Council for Artificial Intelligence includes seven major touchpoints summarized in exchanging best practices and expertise, identifying AI applications that provide smart, safe, and sustainable solutions and recommending capacity building programs and boosting AI skills.

The strategy was consolidated into four pillars (NAIS, 2021: 6):

- AI for Government
- AI for Development
- Capacity Building: through preparing Egyptian citizens for the AI era at all levels, from raising public awareness to guiding formal education and offering vocational and professional trainings.
- International Relations

This study is mainly interested in capacity building, that is a major factor in organizational culture.

Egypt’s AI Strategy Enablers are based on the following (NAIS, 2021: 7):

- Governance
- Data
- Ecosystem: It includes academia, research, SDGs, startups, SMEs, MNCs, NGOs and civil society.

- Infrastructure: The physical infrastructure includes computers, storage, connectivity, and ensures access by all members of the ecosystem.

Enablers Ecosystem and Infrastructure are the major touchpoints regarding facilitating the spread of the organizational culture for AI developmental purposes.

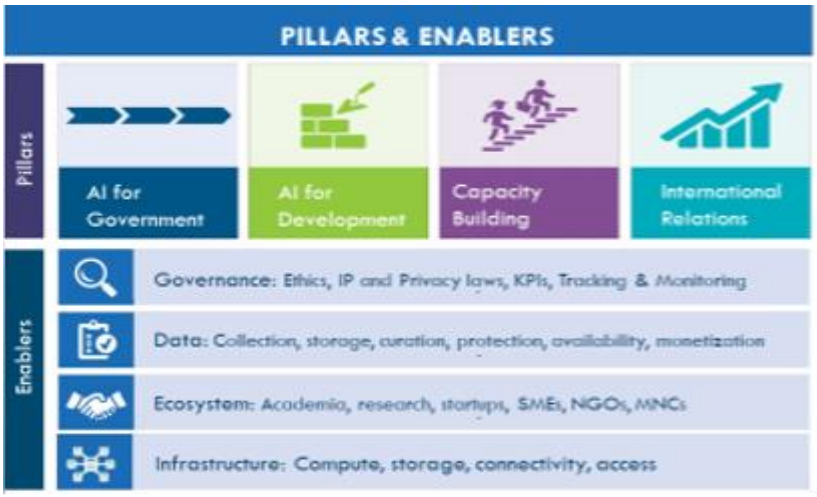

Figure (1) Pillars and Enablers of NAIS (Radwan and Sobeih: 2021)

In light of the capacity-building pillar, Radwan and Sobeih (2021) asserted that Egypt's approach to AI capacity-building rests on three main principles:

1. AI should enhance human labor, not replace it. This sets the priority on improving processes and outcomes, not cutting jobs.
2. The best way to counter any threats to the labor market is to expand the labor market. This means generating new opportunities and equipping all generations, not just the young, with the skills needed.
3. It is important to understand that some people cannot be upskilled or reskilled, and it's vital not to leave them behind.

In fact (Radwan and Sobeih: 2021) analyzed NAIS as a development strategy more than an AI strategy. However, opposing this idea (draya-eg.org, 2023) ensures that the adoption of artificial intelligence applications appears to be among the government's priorities, with expectations of growth in the deployment of artificial intelligence applications in Egypt at a rate of 25.5% annually from now until 2030, and with the implementation of the national strategy for artificial intelligence within three to five years.

Since 2017, the UN published a report on leveraging information and communication technology (ICTs) for achieving the Sustainable Development Goals (Bhunia, 2017). The UN-defined Sustainable Development Goals (SDGs) as the best depiction to measure social good (Nasir et al., 2023). The same strategy is being used for AI's prevalence. NAIS is focused on its pillars and enablers of SDGs.

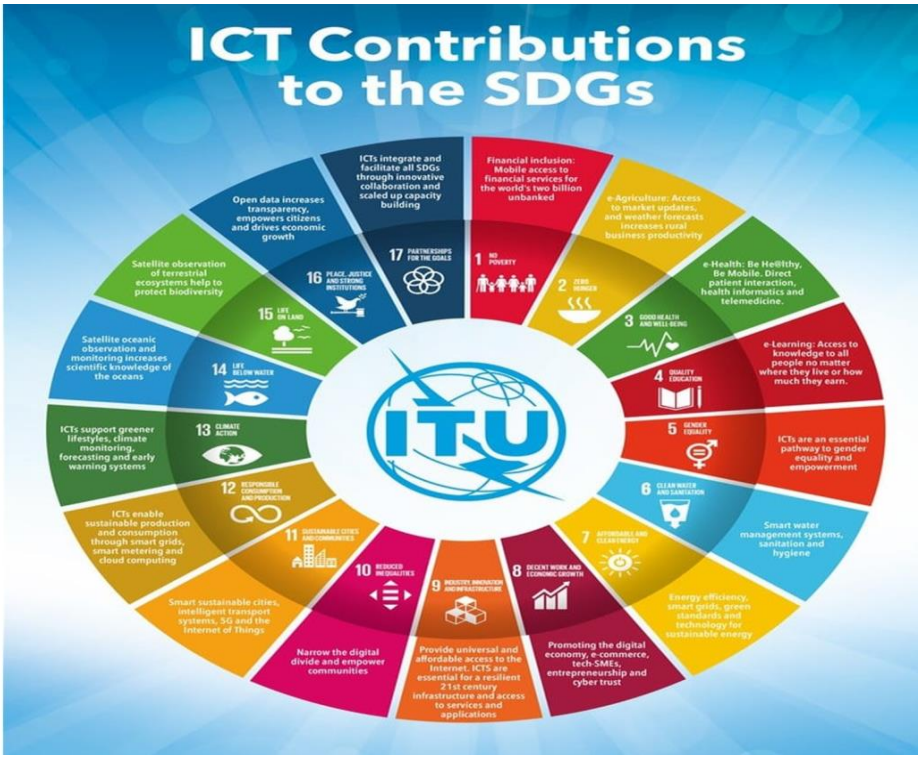

Figure (2) ICTs Contribution to the SDGs (Bhunia, 2017)

Literature Review on AI's contribution to SDGs is abundant. Sustainable development has become a global priority as societies strive to balance economic growth with environmental protection and social well-being. The rapid advancements in AI offer unprecedented opportunities to address complex sustainability challenges. AI refers to the simulation of human intelligence in machines, enabling them to perform tasks that typically require human intelligence, such as learning, problem-solving, and decision-making. AI would contribute to sustainable development in various sectors, through solving complex problems related to the environment, economy, social issues, and many other aspects (Akavova et al., 2023).

The emergence of artificial intelligence (AI) is shaping an increasing range of sectors. For instance, AI is expected to affect global productivity, equality and inclusion, environmental outcomes, and several other areas. Reported potential impacts of AI indicate positive impacts on sustainable development. Past studies show relevant evidence that AI may act as an enabler on 134 targets (79%) across all SDGs, generally through technological improvement, which may allow to overcome certain present limitations. Positive outcomes appear mainly in the social, economic, and environmental sectors (Vinuesa et al., 2020).

However, (Nasir et al., 2023) had slightly different findings. Artificial Intelligence (AI) should aim at benefiting society, the economy, and the environment, i.e., AI should aim to be socially good. For AI to be socially good, it must support all 17 UN SDGs. This study provides a unique insight into AI on all fronts including curricula, frameworks, projects, and research papers shedding light on how AI is being used and can potentially be employed in the future to achieve the SDGs. To this end, a methodology using keyword-matching and keyword-similarity was devised to compute the relevance of the SDGs for a given document. Findings from this study suggest that the development of AI technology is focused on improving the current economic growth but neglects important societal and environmental issues.

Another concept has emerged in the AI literature, that is *Sustainable AI*. This concept calls for establishing adequate policy and legislation frameworks, to help direct the vast potential of AI towards the highest benefit for individuals and the environment, as well as

towards the achievement of the SDGs. Regulatory oversight should be preceded by regulatory insight, where policymakers have a sufficient understanding of AI challenges to be able to formulate a sound policy sector (Vinuesa et al., 2020). Another study by INGLOSUS estimates that AI can contribute to nearly 80 percent of the SDGs and their targets. Examples include AI systems forecasting extreme weather events, enhancing agricultural productivity to combat hunger, predicting and responding to disease outbreaks, and building clean energy infrastructure (INGLOSUS, 2023).

Neutrally speaking, (Theodorou et. Al., 2022) asserted that responsible Artificial Intelligence (AI) is a force for global sustainable development. AI provided explicit guidance on how it can contribute to the achievement of the United Nations' Sustainable Development Goals (SDGs). This would be the case for the AI strategies of the Nordic countries, at least given their high ranking and overall political focus when it comes to the achievement of the SDGs. In this study, an analysis of existing AI recommendations from 10 different organisations concerning the SDGs is presented. The analysis shows that Nordic countries are not different from the others albeit their long-term commitment to SDGs. More importantly, references to gender equality (SDG 5) and inequality (SDG 10), as well as references to the environmental impact of AI development and use are notably insignificant.

On the other hand, looking from a negative perspective, AI's potential to worsen inequality, to overexploit resources, and to focus on SDG issues relevant mainly to high-income countries must be overcome, in close collaboration and engagement with potential beneficiaries in resource-limited settings (Stahl, 2023).

It is a globally shared vision that AI can facilitate sustainable development; the vision is closely associated *with national culture and corporate culture* in many areas related to sustainable development, such as education, fairness and equity, and urban development. The combination of cultures and AI technology can offer insights into sustainable development from distinct perspectives and provide a greater understanding of long-term sustainable development and its implementation. Therefore, AI needs to embrace different cultures and seek common ground (Zeng, 2020).

Organizational Culture Studies post-pandemic

Organizational Culture is a group of **internal values and behaviours** in an organization. It includes experiences, ways of thinking, beliefs, and future expectations. It is also intuitive, with repetitive habits and emotional responses. It is also known as Corporate Culture. Organizational Culture is the result of a perception within the company that its employees all share. It is: "The sum of values and rituals which serve as 'glue' to integrate the members of the organization." (MBN, 2023).

Employee interactions with AI post-pandemic in the organizational setting have been massively studied worldwide during the years (2021-2024). Not only has the organizational culture post-pandemic been discussed, but plenty of relevant organizational issues.

(Rakova et al., 2021) used the data from the semi-structured qualitative interviews to compare across organizations and describe the state of organizational structure and practices in the responsible AI field. The study described how respondents perceived transitions occurring within their current contexts, focusing on organizational barriers and enablers. Findings concluded that most commonly, practitioners have to grapple with lack of accountability, ill-informed performance, misalignment of incentives within decision-making structures, societal impacts, integration of AI practices throughout all parts of the organization, and aligning decision-making at all levels with an organization's mission and values.

There is exponential growth in the use of AI applications in organizations. Due to the machine learning capability of artificial intelligence (AI) applications, it is critical that such systems are used continuously in order to generate rich use data that allow them to learn, evolve and mature into a better fit for their user and organizational context. As an example, (Gkinko and Elbanna, 2022) focused on the actual use of conversational AI, in particular AI chatbot, as one type of workplace AI application to answer the research question: how employees experience the use of an AI chatbot in their day-to-day work. Through a qualitative case study of a large international organisation and by performing an inductive analysis, the research uncovers the different ways in which users appropriate the AI chatbot. Based on these findings, users of AI chatbots are classified into four types: early quitters, pragmatics, progressives, and persistent.

Another topic tackled by (Paga, 2023) was the role of AI pertaining to leadership styles. It examines how leaders' ethical considerations and decision-making processes are influenced by the ethical implications of AI technologies. The study also investigates how ethical leadership styles can shape the responsible and sustainable use of AI within organizations. The research aims to provide empirical evidence and insights into how AI ethics influence leadership behavior and decision-making processes. A survey instrument was developed and administered to a sample of leaders and managers across various information technology industries to collect data on their perceptions of AI ethics and their preferred leadership styles. The findings indicate that leaders who prioritize AI ethics are more likely to exhibit ethical leadership styles characterized by transparency, fairness, and accountability. Furthermore, the study identifies specific dimensions of AI ethics that have the strongest influence on leadership styles. The implications of these findings are discussed in the context of promoting ethical practices and responsible AI use in organizations. (Bagdasarian, 2023) nearly researched the same topic related to decision-making but in medical institutions only and got matching results.

In recent years, artificial intelligence (AI) has become increasingly relevant for organizations to exploit business-related databases and remain competitive. However, even though those technologies offer a huge potential to improve organizational performance, many companies face challenges when adopting AI technologies due to missing organizational and AI capability requirements. (Bley et al., 2022) focused on those challenges by investigating the influence of organizational culture on a company’s AI capability and its organizational performance. A quantitative study was conducted in Scandinavia and employed a questionnaire receiving 299 responses. The results revealed a strong positive relationship between organizational culture, AI capabilities, and organizational performance.

Another research directly related to organizational culture is that of (Antonius et al., 2023). Employee competency development is the main pillar in the strategy to advance the organization. This research aims to identify the positive impact of implementing a competency development program on improving the quality of employee performance, corporate culture, and the level of innovation in the work environment, with the help of ChatGPT's Artificial Intelligence (AI)

that effectively supports the Learning/Training Development Division team in detailing the competencies required for each position and job code in the company, as well as formulating an appropriate syllabus. The research methodology combines experimental and observational approaches, in-depth interviews, and document analysis by measuring the Key Performance Indicator (KPI) for eight employees of the IT Development Division and then compiling a skills matrix. The study's findings demonstrate that the employee competency development program may identify the technical competency and soft skill requirements of staff members, particularly regarding leadership, with the help of ChatGPT. This research concludes that the employee competency development program using ChatGPT has a significant positive impact on improving performance and innovation in the company and thus corporate culture. It recommends ongoing program implementation, utilizing current methods that can be adapted to the company's ongoing needs.

Another question being elaborated on: What will corporate culture look like in the post-pandemic world? It will be marked by empathic and transparent communications between management and employees. It will be innovative and adaptable. The times demand nothing less.

Landau (2022) asserted that the post-COVID workplace must not only be a place where flexibility is embraced but also one featuring collaboration and transparency. For some companies, this means designing solutions that allow for a mix of in-person congregating and virtual interaction with colleagues and clients.

The aforementioned studies tackled the state of organizational culture in relation to AI. However, a large portion of literature examined organizational culture post-pandemic, without direct relations to AI.

Starting with the Indonesian researcher Athar (2020) who analyzed the influence of organizational cultural values of PT. Panca Putri company, responsibility, resilience, skill, and direct responsibility for organizational engagement after the COVID-19 pandemic. He used explanatory research and probability sampling. Respondents in this study were the employees of the company who accounted for 59 people. Data collection methods used included interviews, questionnaires, and documentation. The results showed that the post-pandemic COVID-19 organizational culture of PT. Panca Putri, tough

and responsible, has a significant influence on commitment. While the organizational culture of responsiveness and skill has an influence, but not significantly on commitment.

Zarnadze and Kasradze (2020) studied the organizational culture during and post-pandemic in 80 companies in Georgia. The study resulted in the following: Organizational culture is the most important tool for regulating interaction in a group, a lever for increasing the efficiency and productivity of its members. Forming a culture in an organization creates thinking architecture, a common psychology and value system that creates physical changes in the brain. All that employees believe in, what employees strive for, all the actions that employees physically perform over a long period of time, goals and objectives, ideas, values and traditions form their brain. Formation of strong intra-organizational links will help Georgian organizations create a strong immune system of the organization, synchronize the actions of employees, maintain team spirit and raise the psycho-emotional mood of company employees, increase its profitability and work efficiency post-pandemic.

(Qiang, 2022) traced challenges and obstacles caused by COVID-19 in organizations. After widespread vaccines, lifestyle became normal and entered the post-pandemic era. Organizational culture is the key to that organization's shift during the post-pandemic. In this article, there are recommendations that the organization can think of to make cultural changes effectively. First, the organization needs to assess and diagnose if it is an agile organization. Second, leadership is the key to ensuring the change is in the right direction. The leadership discussion focuses on evolutionary leadership and situational leadership in the changing process. COVID-19 will not be the last crisis that changes the environment. Thus, organizations need to learn how to become agile and future-focused organizations.

(Haris et al., 2023) studied the organizational culture of SMEs post-pandemic. The purpose of this study was to analyze the influence of employee work culture on employee performance, the effect of work motivation on performance and the effect of competence on employee performance in the Covid-19 post-pandemic and digital era. The research method was quantitative utilizing a survey, of 390 SMEs owners in Indonesia who were selected by simple random sampling. The results of the research hypothesis test showed that work culture had

a positive and significant effect on employee performance, work motivation had a positive and significant effect on employee performance, and competence had a positive and significant effect on employee performance in the Covid-19 post-pandemic and digital era.

(Phahlane, 2023) analyzed the COVID-19 pandemic that has disrupted personal, societal, and professional lives in a variety of ways in South Africa. This sudden disruption affected the organizational culture and changed the way in which people do things. However, researchers are still trying to understand how the pandemic affected the organizational culture, especially in a developing country such as South Africa. The study uncovered how organizational culture in typical South African organizations has been transformed by the pandemic and how these changes influence the organization overall. The pandemic profoundly transformed the organizational culture, the underlying values, and assumptions of organizations to shift from exploration and creativity towards safety and resilience during the pandemic. Organizations were required to re-adjust their culture to fit with new environmental realities.

Concluding the literature review, the researcher will present the closest papers to the current study:

(Ransbotham et al., 2021) studied the cultural benefits of AI in different enterprises. This study asserted that the benefits of artificial intelligence go well beyond improved efficiency and decision-making. AI can also improve organizational effectiveness and strengthen teams and enterprise cultures. The current study followed the steps of (Ransbotham et al., 2021), especially in the theoretical framework and organizational culture classification model. With AI systems in place, teams can perform tasks with more pride and confidence and collaborate more effectively: they can get stronger. These cultural benefits can penetrate the foundation of business operations, improving assumptions that drive organizational behaviors and ensuring the pursuit of smarter goals. Corporate culture affects AI deployments, and AI deployments affect corporate culture, i.e. a win-win situation. This study is based on a global survey of 2,197 managers in 29 industries and 111 countries and interviews with 18 executives researching or leading AI initiatives in large organizations in a broad range of industries, including financial services, media and entertainment, retail, travel and transportation, and life sciences; that identified a wide range

of AI-related cultural benefits at both the team and organizational levels. More than 75% of the respondents saw improvements in team morale, collaboration, and collective learning.

Survey respondents who saw significant financial benefits from AI initiatives were 10 times more likely to change how they measure success than those who saw no such benefits. AI also helped these organizations realign behaviors and become more competitive. Building a culture that supports innovation with AI affects competitiveness. Whether it's reconsidering business assumptions or empowering teams, managing relationships among culture, AI use, and organizational effectiveness are critical to increasing AI's value to an organization. 64% of companies that have integrated AI into their processes say that their use of AI led to changes in their KPIs.

The second study which is to be published in 2025 is that of Salah El-Din (2025) who studied the organizational culture in Egypt amidst digital transformation. Triggered by the assumption that Organizational Culture cannot be ignored during organizational change, where it controls norms that show the attitudes, beliefs, assumptions, and expectations of the employees in the same organization, the main purpose of this research is to examine the role of Digital Organizational Culture in Organizational Development. Considering Digital Transformation processes, an applied study of the Egyptian ministries that undergo the digital capacity building preparation program for the transfer to the new administrative capital city held by the Egyptian Ministry for communication & Information Technology (MCIT) is carried out. Discussion groups were held for experts in charge of training and qualifying governmental employees in light of the new digital environment in different Egyptian ministries. In addition, interviews for selected employees of different functional areas at different functional levels and an online research survey were conducted with various ministers' employees. The findings of the research supported that Digital Organizational Culture has a significant impact on Organizational Development.

Theoretical Framework

Organizational culture comes under the umbrella theme '**organizational economics**.' Organizational economics is the study of how humans create and develop organizations. It also looks at how organizations affect economic growth (MBN, 2023). This term is closely related to the "Capacity Building Enabler" in the NAIS and that's why the focus of the current study is the organizational culture post-pandemic.

Classifications of Organizational Culture

The study of organizational culture encompasses a variety of classifications that will be presented hereafter:

Figure 3: Model of Organizational Culture (https://What-is-the-definition-of-organizational-culture-What-are-its-key-characteristics-How-can-it-be-changed-or-adapted-to-suit-a-particular-situation, **2022)**

Organizational culture is a unique phenomenon. There are multiple culture classifications. Some references classify organizational culture into power culture related to the leader, role culture related to formal systems, task culture related to achievements, and personal culture related to personal systems (MBN, 2023).

Phahlane (2023) classified organizational culture into four categories; control (hierarchy), compete (market), collaborate (clan), and create (adhocracy). Depending on the type of environment and

leadership style, an organization could fall into one or more of these classifications.

Salah El Din (2025) categorized the dimensions of digital organizational culture into 5 dimensions and applied them to governmental organizations in Egypt:

-The knowledge dimension includes broad knowledge to solve technical problems, the cognitive impacts of technology, and prior knowledge from other disciplines, in addition to the form and structure of technological knowledge.

- The skill dimension includes practical skills and mental skills, such as evaluation skills, analytical thinking, creativity, problem-solving, research, and analysis skills.

- The emotional dimension: includes emotional skills, such as the ability to act, love of work, interest in technology, and concern for it.

- The ethical dimension: i.e. the ethical implications of technology and acting in good faith.

- The social dimension: a sense of social responsibility, and positive work habits.

Landau (2022) presented three cases of organizational culture post-pandemic:

- Companies that featured a strong culture before the outbreak discovered a new resilience that will help them recover faster than others.
- Corporate culture that was already in transition before the pandemic could be infused with new possibilities and adaptive leadership mindsets; the crisis was a catalyst for growth.
- Organizations that entered the pandemic with a weak or poorly managed culture will find that the level of recalibration is beyond their capacity for change, resulting in potentially existential risks.

The theoretical framework of this study is that used by (Ransbotham et al., 2021) in their seminal work as previously stated. The researchers defined organizational culture as a three-level facet: how things are done in the organization, the espoused values that drive and govern those behaviors, and assumptions that could explain discrepancies between behaviors and publicly stated values.

The model used in this study is comprised of 4 components: Collective learning, Clarity of Roles, Collaboration, and Morale.

The study predicted that enhancing those 4 components post pandemic utilizing AI would result into Efficiency and Decision Quality, which would result into consolidating Organizational Trust and Understanding as presented in Figure (4).

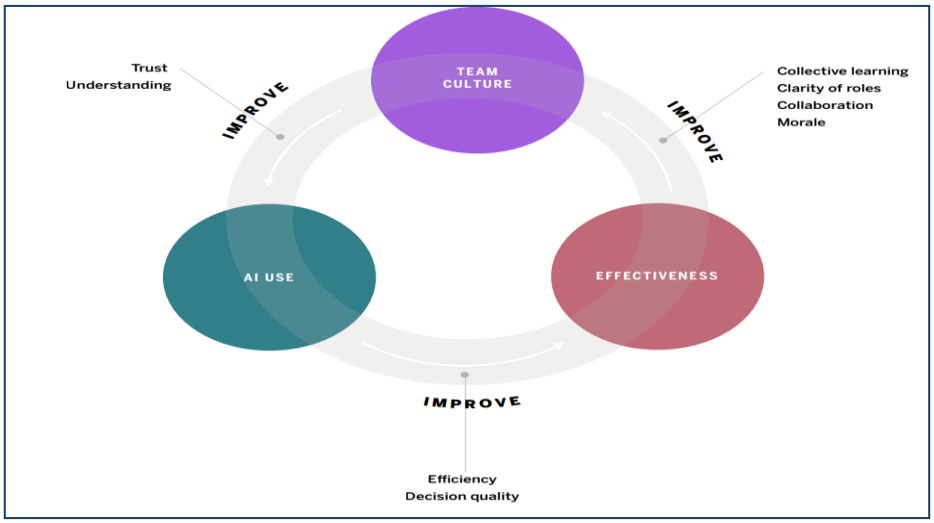

Figure 4: Model of Organizational Culture utilized in this study (Ransbotham et al., 2021)

1- Collective Learning: Teams that improved their efficiency and decision quality with AI also improved their collective learning. AI implementations influence both what teams learn and how learning occurs.

2- Clarity of Roles: It is a common result of effective AI implementations that those who reported increases in efficiency and decision quality from their AI implementations, saw improved clarity of roles.

3-Collaboration: The increased efficiency and decision quality from AI implementations frequently lead to improved collaboration.

4-Morale: Among teams that improved their efficiency and decision quality with AI implementations, most reported an increase in morale.

The overall outcome is stated as follows: Organizational culture can improve AI adoption, which in turn improves organizational effectiveness, which in turn improves organizational culture.

Methodology of the study

Statement of the current problem:

The research problem revolves around one question mainly: 'Will Adopting AI and consequently adhering to SDGs massively post-pandemic bring ramifications upon the organizational culture of Egyptian Corporations?'

To answer this question, the government's efforts to Introduce the National Artificial Intelligence Strategy (NAIS) were elaborated on.

More specifically, the pandemic has reduced the duration of the technology adoption process for individuals and companies to one-fifth of the period required before the pandemic. AI is an inevitable advancement triggered by the post-pandemic situation and the involvement of technology in every aspect of life and backed up by the National Artificial Intelligence Strategy in Egypt.

A report was issued by the Oxford Insights Foundation and the International Development Research Centre, to measure the readiness of governments to use artificial intelligence technologies based on three main axes and 33 indicators, including the existence of a national strategy for artificial intelligence, data protection and privacy laws, the use of information and communication technology and digital services, the development of communications infrastructure, the availability of digital skills, and the culture of entrepreneurship, and the ranking is based on a total of 100 points. Egypt ranked second in Africa in 56th place with 49.2 points (draya-eg.org, 2023).

On the other hand, according to Kaspersky research, around half (44%) of employees in Egypt are afraid of losing their jobs to AI, although one out of four employees 25% reported feeling the positive aspects that robotization brings to them.

Among those mixed effects, the current study explores the role of organizational culture in facilitating AI adoption and adherence to SDGs in different sectors, as per stated by NAIS.

Egypt's approach to AI capacity-building rests on three main principles not including cultural readiness to accept the organizational culture changes and those are:

AI should enhance human labor, not replace it. This sets the priority on improving processes and outcomes, not cutting jobs.

The best way to counter any threats to the labor market is to expand the labour market.

It is important to understand that some people cannot be upskilled or reskilled, and it's vital not to leave them behind.

The current study would be applying the organizational culture model on sectors most targeted by NAIS and thoroughly testing adherence to SDGs, i.e., services and small industries, to shorten the innovation cycle, and test facilities for advanced industrial production and financial organizations, and to support financial inclusion efforts, the current study aims at detecting the relationship between AI use post-pandemic in banks and SMEs (Small and Medium Enterprises), adherence to SDGs and the organizational culture of those corporations.

Research objectives:

The current study is based on the major findings of the seminal study by Sam Ransbotham et al. published in November 2021 and entitled: The Cultural Benefits of Artificial Intelligence in the Enterprise in the Big Ideas Research Report.

The current study aims to detect the relationship between AI adoption post-pandemic in banks and SMEs (Small and Medium Enterprises), adherence to SDGs, and the organizational culture of those corporations as its major objective.

An organization's culture defines the proper way to behave within the organization. This culture consists of shared beliefs and values established by leaders and then communicated and reinforced through various methods, ultimately shaping employee perceptions, behaviors, and understanding, which the current study predicts are much changed by AI introduction of the designated organizations in Egypt.

Sub-objectives are stated as follows:

1- The study aims to explore the role of AI adoption and SDGs adherence in enhancing collective learning post-pandemic.
2- The study aims to explore the role of AI adoption and SDGs adherence in enhancing the clarity of roles post-pandemic.
3- The study aims to explore the role of AI adoption and SDGs adherence in enhancing collaboration post-pandemic.
4- The study aims to explore the role of AI adoption and SDGs adherence in morale post-pandemic.

Research questions:

The Current Study provides exploratory answers to one major question, i.e.:

Can AI adoption and adherence to SDGs post-pandemic enhance Egyptian organizational culture?

Sub-questions are stated as follows:

1- Can AI adoption and adherence to SDGs post-pandemic enhance collective learning regarding Egyptian organizational culture?
2- Can AI adoption and adherence to SDGs post-pandemic enhance the clarity of roles regarding Egyptian organizational culture?
3- Can AI adoption and adherence to SDGs post-pandemic enhance collaboration regarding Egyptian organizational culture?
4- Can AI adoption and adherence to SDGs post-pandemic enhance morale regarding Egyptian organizational culture?

Research Method and Sampling Procedures:

To answer the previous questions, the researcher carried out a qualitative exploratory study. Although investigating organizational culture in the vast majority of studies is quantitatively utilizing the survey data collection tool, the current research faced troublesome difficulties and non-collaboration from the designated sample, leading to changing the method into a qualitative exploratory study depending on exploring the websites and social media accounts of the designated sample and carrying out 5 non-structured interviews with executives from 5 corporations in the study sample on the condition of anonymity.

Sampling:

Since the major driver of this study is the government's involvement in the ICT acceleration, AI adoption, and launch of the National Strategy of Artificial Intelligence Post-Pandemic, the current study resided to the NAIS for choosing the sample from the sectors most targeted by the strategy.

Therefore, the study would apply the organizational culture model to sectors most targeted by NAIS and thoroughly test adherence to SDGs, i.e., services and small industries, with the sole purpose of shortening the innovation cycle, and testing facilities for advanced industrial production and financial organizations, and to support

financial inclusion efforts, the current study chose two major sectors directly mentioned in the NAIS for the current investigation which are: Banks and SMEs.

Purposive sampling was applied to explore the banks that pioneered in introducing AI in their services, through googling the status of the banking sector in Egypt. The number of banks investigated was four: Abu Dhabi Commercial Bank (ADCB), Commercial International Bank (CIB), Arab Investment Bank (AI bank), and FAB Misr.

To thoroughly study the status of each bank and after filling out the survey was denied, the researcher resided to the official websites of the scrutinized banks, their Facebook and Instagram accounts, and any articles written on their endeavors post-pandemic regarding new AI services or any capacity building services. Two anonymous non-structured interviews were carried out with two personnel responsible for career development in two of the banks.

As for the SMEs, uncertainty about their numbers and characteristics prevailed. Different studies and reports showed contrasting info about Egyptian SMEs. The researcher resided eventually on the website AeroLeads, which is a powerful web-based prospect generation software which not only finds relevant prospects but also finds contact details. The AeroLeads website came out with 18 SMEs that are top notch in Egypt, the researcher chose 4 according to the criteria of web presence and AI adoption pre- or post-pandemic, exploring their accounts and interviewing anonymously three personnel. The chosen SMEs were Hemaya Information Technology (An IT solutions company), Firnas Shuman, Royal Insurance, and Kinometrix (Precision Patient Safety Platform).

Findings

Findings will be presented qualitatively in light of each dimension of the organizational culture model followed by a thorough discussion:

Banking Services

FinTech (2020) specified the areas in which AI can greatly enhance financial services: automated customer support, fraud detection and claims management, insurance management, automated virtual financial assistants, wealth management for the masses, and predictive analysis in financial services.

AI's adoption and Adherence to SDG's pertaining to collective learning in the sample organizations post-pandemic.

Arab Investment Bank (AI bank) presents an example of collective learning. Collective learning by definition is the unique human ability to share and collect information and knowledge as a group. AI bank's most recent AI endeavour entitled (AI concierge for premier clients) encompasses lots of services offered to A Class-Clients via AI (website). To deliver such services, the internal team experienced collective learning of AI techniques utilized in such context.

Collective learning is also presented through the specialized AI courses, bankers are offered through specialized entities, as what is provided through the Egyptian Banking Institute that is affiliated with the Central Bank of Egypt (https://ebi.gov.eg/generative-ai-in-finance, interview). Those services have multiplied post pandemic.

AI's adoption and Adherence to SDG's pertaining to clarity of roles in the sample organizations post-pandemic

Abu Dhabi Commercial Bank (ADCB) is the first bank in Egypt to implement AI in Egypt in 2019, even pre-pandemic. This is the most salient bank to display clarity of roles dimension. Clarity of roles indicates the mere understanding of what is expected from the job and the level of accomplishment of specific goals. Clarity of roles culture urges ADCB to accomplish specific goals, so in 2021, the bank announced Egypt's first AI-powered system aimed at enhancing the bank's real-time fraud prevention capabilities. The project which was deployed in record-time exemplifies commitment to the country's security-first approach concerning its *rapidly progressing digital transformation journey.* (website).

The same situation happened with CIB. In 2019, CIB became the first bank in Egypt to introduce an AI chatbot called Zaki, based on

Oracle's Digital Assistant. Zaki is the first of its kind in the Egyptian banking industry, using advanced artificial intelligence to assist customers, gather key data, and help CIB revolutionize digital banking as it stands today (website).

Clarity of roles of top management is also presented in FinTech. Top-level management decisions are made safer & easier when they are data-driven; add lower costs to these decisions and that is a winning formula. AI helps empower these decisions based on agreed-upon processes and robust architectures, allowing top management to use their time in other areas more efficiently. This will guarantee faster and more efficient decision-making across the board.

This rapid digital transformation conforms with NAIS vision.

AI's adoption and Adherence to SDG's pertaining to collaboration in the sample organizations post pandemic

Results clarify the importance of collaboration, either as a valuable culture dimension especially within banks or the collaboration with external entities to consolidate AI adoption and Adherence to SDGs.

Examples are multiple. Commercial International Bank (CIB) adopted AI pre and post pandemic, however, collaboration with internal and external parties regarding enhancing their AI solutions and capacity building continue on regular basis (CIB, 2023). Training on the new enhanced technologies strengthen the collaboration culture. The news of the integration with IBM AI solutions comes as part of the bank's digital transformation journey, as it looks to modernise its IT infrastructure, *as per stated by NAIS as well*.

FAB Misr collaborated with IBM as well a year before. Collaboration with internal and external parties regarding enhancing their AI solutions and capacity building continue on regular basis (FAB Misr, 2022). Training on the new enhanced technologies strengthen the collaboration culture. The news of the integration with IBM AI solutions comes as part of the bank's digital transformation journey, as it looks to modernise its IT infrastructure, *as per stated by NAIS as well*

AI's adoption and Adherence to SDG's pertaining to morale in the sample organizations post pandemic

Financial Inclusion endeavours not only serve SDGs but are also proof of the morale dimension of utilizing AI post pandemic. Morale by definition encompasses the mental and emotional conditions as of enthusiasm, spirit or loyalty of an individual or group regarding

accomplishing goals. All banks subject to study have a section in their websites with financial inclusion information and awareness sessions related to financial inclusion in different universities, municipalities or schools. AI post pandemic assisted the bank personnel in carrying out the financial inclusion procedures with the enthusiasm or spirit needed to fulfil the task successfully. (Interviews)

Financial Technology (Fintech) refers to the use of technology to transform the way financial services are being done with the help of artificial intelligence and information technology. In another way, it is the intersection between finance and technology. It also enables more people to easily access different financial services and use them to pay their bills, send money, or even open a new account, increasing financial inclusion. Financial technology (Fintech) has become one of the most important pillars for improving the financial sector, where most customers prefer to carry on their transactions using mobile applications and intelligent solutions. Furthermore, technology-driven financial services help achieve *financial inclusion*, which aims to provide financial products and services at an affordable cost to every segment of the society, including women, youth, SMEs, to meet their basic needs regardless of their income, through providing them with many financial services such as payments, savings, loans, and insurance (Nasrallah, 2021). *Financial inclusion is the SDG mostly targeted by banks through a variety of methods and activities. Fintech especially AI adoption facilitated financial inclusion. The UNSGSA asserted that financial inclusion serves SDG 1: No poverty, SDG 3: Good Health and Wellbeing, SDG 5: Gender Equality, SDG 7: Affordable and Clean Energy, and SDG 8: Decent Work and Economic Growth* (UNSGSA, 2018).

SMEs

AI has emerged as a crucial factor for the success of SMEs. The importance of AI in this regard lies in its ability to automate processes, analyse vast amounts of data and provide valuable insights ultimately leading to improved decision making and operational efficiency. Artificial Intelligence (AI) has emerged as a powerful tool for small and medium enterprises (SMEs) to enhance efficiency and productivity in their operations. By leveraging AI technologies, SMEs can automate repetitive and mundane tasks, freeing up valuable time and resources for more strategic activities (Chiancone, 2023). The sectorial

distribution of Egyptian SMEs shows that they concentrate in the manufacturing and trade sectors 51% and 40%, respectively; 4% for the tourism sector; 3% for the construction; and 2% for other activities (OECD, 2018). Egypt is home to 2.5 million SMEs which account for over 80% of GDP according to the Organization of Economic Cooperation and Development (HSBC, 2021).

AI's adoption and Adherence to SDG's pertaining to collective learning in the sample organizations post pandemic.

AI adoption presents several challenges for small and medium enterprises (SMEs). One of the key challenges is the lack of awareness and understanding of AI technologies among SME owners and decision-makers. The solution here is to invest in employee training and education. Many SMEs face a lack of AI expertise within their workforce, which can hinder the integration process. By providing training and upskilling opportunities to employees, SMEs can build a team with the necessary knowledge and skills to successfully implement and maintain AI systems. This happens through the collective learning dimension. This is exactly the case of the organizational culture of Hemaya Information Technology, as reflected in the official websites. Having many Top-notch clients and involved in practicing multiple IT solutions, they adopt collective learning as a major dimension of their culture, especially with the rapid technological developments post pandemic.

AI's adoption and Adherence to SDG's pertaining to clarity of roles in the sample organizations post pandemic

AI systems are capable of making statistical predictions, which means inferring diagnosis and analysis based on the information previously obtained. The use of advanced statistical techniques for deriving prediction is commonly referred to as predictive analytics, which is a subset area of data analytics. Clarity of roles to achieve the designated goals is the dimension related to this practice in organizational culture.

Firnas Shuman practices such culture. In their website they clearly expressed that they have a unique company culture, which brings together individuals from different backgrounds and origins with the common aim to develop the countries they work in. They do this by working with people who seek these countries' development and not

just mere profit, thus aim clarity have been presented again in a different form.

AI's adoption and Adherence to SDG's pertaining to collaboration in the sample organizations post pandemic

Regarding SMEs, collaboration is a difficult dimension of organizational culture. Results from the banking sector clarified the importance of collaboration, either as a valuable culture dimension especially within banks or the collaboration with external entities to consolidate AI adoption and Adherence to SDGs. As SMEs are much smaller in scope and ties, the sub-culture was rarely spotted with the same concept, except in AI solutions SMEs. Kinometrix is a prominent example. Utilizing AI solutions to ensure patients' care, Kinometrix collaborates with multiple partners and join major AI fairs and contests as per their website (https://kinometrix.com/about-us/). Training and technological advancements follow.

AI's adoption and Adherence to SDG's pertaining to morale in the sample organizations post pandemic

SMEs that maintained their employees' physical and mental wellbeing, and developed a back-up plan for impacted staff members to support them physically and psychologically aided by AI adoption maintained the subculture of morale. Royal Insurance manifested morale on their Facebook page when they declared: "Maintaining the wellness of our employees is crucial for promoting a healthy work environment... For this reason, we organized Royal's Wellness Day in collaboration with Misr International Hospital offering medical tests and consultations for our staff".

Again, Firnas Shuman values the opinions and differences of their people and they let the best ideas win. Their professional staff enjoys flexibility at work to allow personal and professional growth and achievement of outstanding results. Not taking things for granted the company cares about the results of their work and the satisfaction of their stakeholders (Website).

Major findings from the SMEs sector are inline with the results of Zaazou and Abdou study (2020), that SMEs who embraced flexible culture and focused on new investments in innovation, succeeded in dealing with COVID-19 pandemic crisis and managed to survive in the market. This flexible culture was aided according to the current study by AI adoption and adherence to SDGs.

However, the current study showcased that Egyptian SMEs adherence to SDGs was not what was expected. SDGs are not salient in their communication, except for the SMEs that work in the energy field. This is due to either lack of resources or lack of awareness and this is not inline with the Egyptian NAIS. An example of an SME with a strong Adherence to SDGs is Firnas Shuman that provides consulting and technical services to those who plan, build, own, and operate power generation and transmission infrastructure in Africa, the Middle East, and Central Asia. In their line of work, they deal with solar and wind energy projects, hybrid renewable-conventional projects, energy efficiency, and environmental services. Due to this, they have a comprehensive approach to societal and environmental risk management, to ensure that projects comply with environmental regulations, key stakeholders' expectations and community needs. They adhere to SDGs 3: Good Health and Wellbeing, 6: Clean Water and Sanitation, 7: Affordable and Clean Energy, 9: Industry, Innovation and Infrastructure, 12: Responsible Consumption and Production and 13: Climate Action.

Discussion

The changes caused by the pandemic will continue happening in the next three to five years. There are several cultural attributes that changed in organizations during pandemic. Organizational culture was forced to shift in different ways, that the leadership team in the organizations cannot afford to overlook.

Furthermore, the pandemic brought about transformation in organizations in the following ways: the adoption of *technology*, the development of new business models and the implementation of new ways of working. Based on all these changes organizations started thinking about how to adjust their organizational cultures during the post-pandemic phase and for management to include the effect of this change in their plans and strategic objectives and guide employees accordingly.

Organizations that survived the effects of the pandemic had to transform and adopt new ways of doing business. A majority had to go aboard digital transformation and AI adoption, while others had to completely reconsider their plans and goals. The banking sector was

one sector that witnessed rapid technological transformation post pandemic.

The integration of generative AI by banking giants signals a paradigm shift in the financial services industry. The year 2023 stands as a milestone in AI-driven banking innovation. These institutions, led by forward-thinking executives, are not only redefining customer experiences but also setting new standards in operational efficiency and technological adoption in the banking sector.

Regarding AI banking services, a new generation of financial services that benefited from the evolution of AI driven mobile phones and internet applications evolved. For instance, cell phones are rapidly used to make transactions through financial institutions' accounts. The Covid-19 Pandemic has further expedited the use of new digital channels and many other products that came into our daily lives and changed the way we interact (Nasrallah, 2021). Those digital communication channels have emerged as the most important pillars that affected the organizational culture process of AI adaptation and adherence to SDGs or else corporations would face destructive risks.

Landau (2022) predicted the style of corporate culture in the post-pandemic AI world, as marked by empathic and transparent communication between leaders and employees. The must adopted values would be innovativeness and adaptability. The current study proved the validity of this assumption as well as capacity building as per NAIS.

Interviews consolidated the assumption that corporations with a strong culture before the pandemic discovered a new resilience that helped them adopt AI faster than others.

The study found out that the most important obstacle pertaining to corporate culture is the lack of consideration of the “people” when starting the AI adoption journey. In some incidents, clearer understanding of the larger organizational needs, was not enough to accurately assess and adopt the technologies. Frequent communication from leadership about the benefits of AI and SDGs and their own personal experiences with them can go a long way in fostering faith in the value of the technology to team members. Anxiety to adopt AI is a major organizational culture barrier. It’s important to ensure a strong, change management process along with clear, consistent communication. Collaboration is critical. It represents a central value in

producing new, better, and innovative adaptations. Leaders must have a disciplined approach to reflect in their strategic plans and supporting priorities. Awareness campaigns and training should be launched to accelerate the adoption phase.

Finally, flourishing AI solutions and adherence to SDGs can strengthen organizational culture at both the team and organizational levels. Understanding and managing the link between culture, SDGs, AI use, and organizational effectiveness became critical to organizational success. However, the effectiveness of AI adoption and SDG Adherence varies from one entity to another and from one sector to another. The banking sector is a priority sector that exhibits strength in all cultural dimensions, whilst SMEs are still of average strength in Egypt. Regarding SDGs and some organizational culture dimensions, SMEs are still fledging post pandemic, in reverse to what was stated by NAIS. Capacity building programmes as related to corporate culture cannot exist in a void space. They need to be a part of a comprehensive framework to realise the goals of NAIS. This is why organizational leaders have created career development paths to introduce AI and sustainability to becoming effective and valuable members of Egypt's AI ecosystem.

References

1. AeroLeads. (2024). Top Small And Medium Businesses companies in Egypt, retrieved from https://aeroleads.com/list/top-small-and-medium-businesses-companies-in-egypt.
2. AIM Research. (2023). The Top 6 Banking Firms Embracing Generative AI in 2023, retrieved from https://aimresearch.co/ai-in-banking/the-top-6-banking-firms-embracing-generative-ai-in-2023.
3. Akavova, A., Beguyev, S.& Zaripova, R. (2023). How AI and machine learning can drive sustainable development. E3S Web of Conferences 460, 04018, https://doi.org/10.1051/e3sconf/202346004018, BFT-2023.
4. Alaa El-Din, M. (March, 2022). COVID-19 contributes to accelerating digital transformation in Egypt: ICT Minister. retrieved from https://www.dailynewsegypt.com/2022/03/08/covid-19-contributes-to-accelerating-digital-transformation-in-egypt-ict-minister/.
5. Antonius, F., Yuliani, M. & Meilia, S. (December, 2023). The Influence and Impact of The Ai-Based Application Chat GPT on The Learning Culture of Corporations: A Case in an Emerging Market. International Journal of Humanities Education and Social Sciences (IJHESS). 3(3), 1555 – 1570.
6. Athar, H. S. (2020). The Influence of Organizational Culture on Organizational Commitment Post Pandemic Covid-19. International Journal of Multicultural and Multireligious understanding, 7(5).
7. Bagdasarian, J. L. (2023). The Robot will see you now: Artificial Intelligence and the micro foundations of institutional change within medicine. PhD dissertation. College of Business, Florida Atlantic University Boca Raton, FL.
8. Bhunia, P. (October, 2017). UN publishes report on leveraging ICT for achieving the Sustainable Development Goals, retrieved from https://opengovasia.com/2017/10/27/un-publishes-report-on-leveraging-ict-for-achieving-the-sustainable-development-goals/.
9. Bley, K., Skjærvik, M.E., & Pappas, I. (September, 2022). The Role of Organizational Culture on Artificial Intelligence Capabilities and Organizational Performance. In The Role of Digital Technologies in Shaping the Post-Pandemic World, 13-24, DOI:10.1007/978-3-031-15342-6_2. pp.13-24.

10. Bruhn, C. (2022). Strengthening Company Culture with Artificial Intelligence. Forbes Business Council, retrieved from https://www.forbes.com/sites/forbesbusinesscouncil/2022/05/09/strengthening-company-culture-with-artificial-intelligence/?sh=16ad69a119b6.
11. Chetty, T. (2019). Big data: Toward the influence of organisation culture and artificial intelligence on firm performance. MA Thesis. Gordon Institute of Business Science, University of Pretoria.
12. Chiancone, C. (2023). How AI is being adopted by SMEs and how it is a priority for leading businesses. retrieved from https://www.linkedin.com/pulse/how-ai-being-adopted-smes-priority-leading-businesses-chris-chiancone?utm_source=share&utm_medium=guest_mobile_web&utm_campaign=copy.
13. Dahabreh, F. (2023). The Continued Usage of Artificial Intelligence in the United Arab Emirates Public Sector Organisations: An extended information system success model. PhD Dissertation. Newcastle Business School, University of Northumbria at Newcastle.
14. Daily News Egypt. (February, 2023). 44% of employees in Egypt fear losing their jobs to AI. retrieved from https://www.dailynewsegypt.com/2023/02/20/44-of-employees-in-egypt-fear-losing-their-jobs-to-ai/.
15. Draya. (February, 2023). Artificial Intelligence in Egypt and Ways to Enhance it Within Framework of National Strategy, retrieved from draya-eg.org.
16. Eke, D. O., Wakunuma, K., & Chintu, S. S eds. (2023). Towards Shaping the Future of Responsible AI in Africa. Social and Cultural Studies of Robots and AI, https://doi.org/10.1007/978-3-031-08215-3_8.
17. FinTech. (2020). Where does Artificial Intelligence fit in FinTech? retrieved from https://fintech-egypt.com/news/news_details.php?id=107.
18. Gkinko, L. & Elbanna, A. (August, 2022). The appropriation of conversational AI in the workplace: A taxonomy of AI chatbot users. International Journal of Information Management, Elsevier Ltd.

19. Hajj, J., Abdel Samad, W., Stechel, C. & Cordahi, G. (2020). How AI can empower a post Covid-19 World. Strategy and Middle East, retrieved from https://www.strategyand.pwc.com/m1/en/articles/2020/how-ai-can-empower-a-post-covid19-world.html.
20. Harris, N., Jamaluddin, J. & Usman, E. (2023). The Effect of Organizational Culture, Competence and Motivation on the SMEs Performance in the Covid-19 Post Pandemic and Digital Era. Journal of Industrial Engineering and Management Research, 4(1), DOI: https://doi.org/10.7777/jiemar.v4i1.436.
21. HSBC. (2021). HSBC is committed to support SMEs in Egypt, retrieved from business.hsbc.com.eg.
22. IBM. (December, 2023). Using IBM technology:CIB integrated existing and new services from all the bank's platforms supported by a hybrid cloud approach, retrieved from https://mea.newsroom.ibm.com/IBM-CIB#:~:text=Commercial%20International%20Bank%20Egypt%20(CIB,the%20Integration%20of%20their%20services.
23. Ing, L. Y. & Grossman, G. M. eds. (2023). Robots and AI: A New Economic Era, Routledge: Taylor and Francis New York.
24. INGLOSUS. (September, 2023). What is the role of artificial intelligence in achieving the SDGs? retrieved from https://www.linkedin.com/pulse/what-role-artificial-intelligence-achieving-gs#:~:text=Experts%20estimate%20that%20AI%20can,and%20building%20clean%20energy%20infrastructure.
25. Itie, D. I. (2022). Decisions for the implementation of artificial intelligence technology for workforce management. PhD dissertation. School of Business, University of Maryland Global Campus.
26. Landau, J. (October, 2022). The State of Corporate Culture Post-Pandemic: Why Work is Forever Changed, retrieved from https://www.linkedin.com/pulse/state-corporate-culture-post-pandemic-why-work-forever-joel-landau.
27. Lu, X., Wijayaratna, K., Huang, Y. & Qiu, A. (April 2022). AI-Enabled Opportunities and Transformation Challenges for SMEs in the Post-pandemic Era: A Review and Research Agenda. Front Public Health, vol. 10, https://doi.org/10.3389/fpubh.2022.885067.

28. MBN. (2023). What is organizational culture? Definition and examples, retrieved from https://marketbusinessnews.com/financial-glossary/organizational-culture-definition-examples/.
29. Ministry of Communications and Information Technology. (2024). National Council for Artificial Intelligence, retrieved from https://mcit.gov.eg/en/Artificial_Intelligence.
30. Ministry of Communications and Information Technology. (2023). MCIT Yearbook. 2023, retrieved from: https://mcit.gov.eg/Upcont/Documents/Publications_1432024000_MCITYearbook2023.pdf.
31. Ministry of Communications and Information Technology. (2022). MCIT Partakes in AI. Arab World Post-Pandemic Future Webinar. retrieved from https://mcit.gov.eg/en/Media_Center/Latest_News/News/65999.
32. Nasir, O., Javed, R. T., Gupta, S., Vinuesa, R. & Qadir, J. (February, 2023). Artificial intelligence and sustainable development goals nexus via four vantage points. Technology in Society, Volume 72, https://doi.org/10.1016/j.techsoc.2022.102171.
33. Nasrallah, N. M. (2021). Using Artificial Intelligence (AI) in Banking Services. Introductory Booklet Series (Issue No. 24) Intended for the Young Generation in the Arab Region. Arab Monetary Fund.
34. OECD Library. (2018). SME policy index: The Mediterranean, Middle East and North Africa, retrieved from oecd.ilibrary.org.
35. Paga, P. (2023). Ethics in Artificial Intelligence and its impact on leadership styles. PhD dissertation. Faculty of the California School of Management and Leadership Alliant. International University San Diego.
36. Phahlane, M. M. (2023). Post-Pandemic Organizational Culture in South Africa. Enhancing Employee Engagement and Productivity in the Post-Pandemic Multigenerational Workforce (ed.). IGI Global, DOI: 10.4018/978-1-6684-9172-0.ch009.
37. Qiang, Q. (2022). Culture: The Key to Shifting Your Organization During Post-Pandemic. The Scholarship Without Borders Journal, 1(1), Article 4, DOI: https://doi.org/10.57229/2834-2267.1016, retrieved from https://digitalcommons.pepperdine.edu/swbj/vol1/iss1/4.

38. Qoura. (2022). What is the definition of Organizational Culture? retrieved from https://What-is-the-definition-of-organizational-culture-What-are-its-key-characteristics-How-can-it-be-changed-or-adapted-to-suit-a-particular-situation.
39. Radwan, S. & Sobeih, S. (May, 2021). Egypt's AI strategy is more about development than AI. OECD. AI Policy Observatory, OECD Policy observation, retrieved from https://oecd.ai/en/wonk/egypt-ai-strategy.
40. Rakova, B., Yang, J., Cramer, H. & Chowdhury, R. (April, 2021). Where Responsible AI meets Reality: Practitioner Perspectives on Enablers for Shifting Organizational Practices. ACM Hum. - Comput. Interact, Vol. 5, https://doi.org/10.1145/3449081.
41. Ransbotham, S., Kiron, D., LaFountain, B. & Khodabandeh, S. (November, 2021). The Cultural Benefits of Artificial Intelligence in the Enterprise. MIT Sloan Management Review: Big Ideas Research Report in collaboration with BCG Ideas.
42. Salah El Din, P. (2025). The Role of Digital Organizational Culture in Organizational Development In light of Digital Transformation adoption in Egypt. Arab Administrative Development Organization- League of Arab States, 1-20, DOI: 10.21608/AJA.2023.173954.1353.
43. Stahl, B. C. (2023). Ethics of Artificial Intelligence. Springer Briefs in Research and Innovation Governance. retrieved from https://ai4good.org/. https://doi.org/10.1007/978-3-031-17040-9_8.
44. The National Council for Artificial Intelligence. (July, 2021). Egypt National Artificial Strategy (NAIS), retrieved from https://mcit.gov.eg/en/Publication/Publication_Summary/9283.
45. Theodorou, A., Nieves, J. C. & Dignum, V. (2022). Good AI for Good: How AI Strategies of the Nordic Countries Address the Sustainable Development Goals. AI of AI 2022: 2nd Workshop on Adverse Impacts and Collateral Effects of Artificial Intelligence Technologies. CEUR Workshop Proceedings http://ceur-ws.org ISSN 1613-0073 CEUR Workshop Proceedings (CEUR-WS.org).
46. UNSGSA. (September, 2018). Financial Inclusion: Technology, Innovation, Progress. Annual Report to the Secretary General.
47. Vinuesa, R., Azizpour, H., Leite, I., Balaam, M., Dignum, V., Domisch, S., Felländer, A., Langhans, S. D., Tegmark, M. & Nerini, F. F., (2020). The role of artificial intelligence in achieving

the Sustainable Development Goals. Nature Communications, 11 (233).

48. Waikar, S. (March, 2021). How Has COVID Affected the AI Economy? The AI Index finds that despite the pandemic's economic hit, AI investment and hiring increased. Stanford University Human Centred Artificial Intelligence (HAI), retrieved from: https://hai.stanford.edu/news/how-has-covid-affected-ai-economy#:~:text=Investment%20in%20AI%2Dfocused%20private,jump%20from%202018%20to%202019.
49. Zaazou, Z. A. & Abdou, D. S. (2022). Egyptian small and medium sized enterprises' battle against COVID-19 pandemic: March–July 2020. JHASS 4(2), 94-112.
50. Zarnadze, N. & Kasradze, T. (October, 2020). Strong Organizational Culture: An Effective Tool for Companies to Survive in a Pandemic World. European Journal of Language and Literature, 6(2), https://doi.org/10.26417/373xsh27z.
51. Zeng, Y. (2020). Artificial Intelligence: An Accelerator for United Nations Sustainable Development Goals. AI for Sustainable Development Goals Cooperation Network. International Research Center for AI Ethics and Governance, retrieved from https://ai-for-sdgs.academy/ai-as-an-accelerator-for-sdgs Center for Long-term Artificial Intelligence.