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S. Sujitha; V. Jayanthi 

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# Determining the Effects of Organizational Culture on Psychological Well-being and Work-Life Quality Through AI and IoT

S. Sujitha<sup>1,a)</sup> and V. Jayanthi<sup>2,b)</sup>

<sup>1</sup>Research Scholar, School of Management Studies, Vels Institute of Science, Technology & Advanced Studies (VISTAS), Chennai, Tamilnadu, India.

<sup>2</sup>Associate Professor, Department of BBA, School of Management Studies, Vels Institute of Science, Technology & Advanced Studies (VISTAS), Tamilnadu, India.

<sup>b)</sup>Corresponding Author: jayanthi.sms@velsuniv.ac.in  
<sup>a)</sup>sujithasatish2007@gmail.com

**Abstract.** The adoption of artificial intelligence (AI) and the Internet of Things (IoT) activities by organizations is greatly aided over the past ten years by ongoing advancements in high-performance computer systems. Every organization's two main pillars are innovation and development. Only a small number of companies, nonetheless, are fully aware of the impact the shift has had on their industry rivalry and the true obstacles to its implementation. The advent of AI caused major modifications in the social, political, and economic spheres of the Internet of Things. This study examines the effects of AI-based culture on employee behavior, the workplace, health, and quality of life. The study highlights the importance of AI and IoT for the long-term growth and development of a firm in this competitive climate. The importance of harnessing AI and IoT to boost income is also covered in this review article. Also, continuous surveillance and customized solutions is possible by the integration of AI and IoT, providing a quick alert for every issue. This study underscores how technology-driven solutions may improve workplace happiness, increase productivity, and boost employee satisfaction. Additionally, it will help deliver a strategy for designing future workplaces that emphasize technological advancements for improved work conditions, health, and well-being.

**Keywords.** Organizational Culture, Psychological Well-being, Quality of Work Life, Artificial Intelligence, The Internet of Things.

## INTRODUCTION

In the rapidly evolving business climate of today, employee happiness and well-being are becoming crucial factors in determining an organization's ability to succeed [8]. Researchers and practitioners' interest in the relationship between work-life quality and the psychological well-being of employees and organizational culture is expanding. A positive organizational culture fosters a supportive and inclusive environment, which can significantly enhance employees' mental health, job satisfaction, and overall quality of life. Conversely, a toxic culture can lead to increased stress, burnout, and decreased productivity. Culture is a crucial and indispensable ingredient for organizational advancement. It is one of the variables that define the performance and success of the organization's activity [18]. Businesses understand that they cannot advance solely through technology or tools; instead, people's skills and performance can have a significant influence [3]. Information technology (IT) has advanced recently, changing the way society, the economy and the public sector are developing economically. The fourth industrial revolution's emerging wave (4IR) [2] has made it necessary for the corporate area to use Artificial Intelligence (AI) techniques in order to expand their current capabilities and create new, creative prospects.

Recent advancements in Artificial Intelligence (AI) & the Internet of Things (IoT) present unprecedented opportunities to assess and improve organizational culture. AI, with its ability to analyze large datasets and identify patterns, combined with IoT devices that continuously monitor various aspects of the work environment, provides a powerful toolkit for understanding and enhancing the workplace. These technologies can offer real-time insights into employees' behavioral patterns, stress levels, and other indicators of psychological well-being. It's exciting to think about all the ways our lives could be made better, from scheduling to medical diagnosis, but it's unsettling to think about the social and emotional fallout, especially when it comes to our work. As a machine learning advances, we

all need to acquire new skills to differentiate ourselves from the herd. Which ones, though? It has long been anticipated how AI and automation/robotics would affect labor markets and workforces. More than three thousand truck drivers will need to search for other work due to self-driving cars while manufacturing jobs—which already number 12 million and are declining—will continue to be eliminated by robotic production lines like Teslas. However, this is only the start of the disturbance and this will be a far greater variety of "thought" employment as opposed to "executing" jobs that have affected by AI's rapid advancement [1].

This study aims to evaluate the effects of organizational culture on Mental well-being and work-life quality using AI and IoT. By integrating these technologies, research proposes a novel approach to creating a healthier and more productive work environment. This research will explore how AI algorithms can analyze data from IoT devices to identify areas of improvement in organizational culture and implement personalized interventions. The goal is to demonstrate that technology-driven solutions can not only monitor but also actively contribute to a positive workplace culture, ultimately enhancing employees' well-being and quality of life.

## **METHODOLOGY**

Reviewing the literature while utilizing a secondary data is the study method. Databases and libraries were used to gather the literature for this study. Well-known worldwide databases including Emerald, Science Direct, ProQuest, Ebsco, Springer Link, and JSTOR were used to gather information and also from international journals. In addition, literature that touched on the subject was reviewed.

### **Organizational Culture**

In described organizational culture as a collection of core values that a group acquires via problem-solving processes that involve internal integration and external adaptation [17]. The method is then judged legitimate and sufficient to be taught to new group members so that they will experience and respond to those issues in a similar manner [15]. Organizational culture provides the core values, beliefs, and concepts that support an organization's management system. Furthermore, individual and collective behaviors, perspectives, and ideas, and values are shaped through methods of management and actions that support and exemplify these fundamental ideas [4]. An organization's culture consists of the following four basic elements are typically as follows [5].

- Strategic and policy – refer to the rules that establish how employees interpret the organization's vision, a mission, and values and how to translate them into measurable objectives for groups.
- Management procedures - The procedures used by a company to manage and organize changes, human resources, administrative, goal-setting, breakthroughs, and interaction
- People - The blending of the needs and requests of the workforce with those of the business, including a balance between work and life, a tangible physical workspace, and direct communication between managers and staff, particularly when it comes to handling conflict, diversity, and interdepartmental relations.
- Leadership: How staff members feel about bolstering the leadership in particular sectors. As Individuals and guidance are regarded as the cornerstones of an unofficial grouping that exert a significant impact on the staff member's behavior, an employee's preferred management style and their interactions with the primary leadership style also contribute to the development of an organization's culture [12].

### **Artificial Intelligence**

The method of imbuing machines or computers with anthropomorphic characteristics is known as artificial intelligence. Put another way, artificial intelligence is the engineering and scientific of building devices that represent the essential characteristics of People. In the current STEM landscape, artificial intelligence is a commonly utilized vertical. An AI-equipped machine's primary functions include gaining knowledge, researching, delving into issues, coming up with accurate fixes, performing entity-level predictive analysis, and enhancing risk evaluations for particular features, [14]. Artificial intelligence is a composite of multiple fields, not simply one vertical. The

automation of building a machine with human-like characteristics comes from the disciplines of biology, arithmetic, math, biology, neuroscience, computer science, philosophy, psychology, and sociology.

### ***A Machine Learning***

The science of Computers may now learn without explicit programming thanks to machine learning. AI is the primary application for it. Computers may now learn from experience and comprehend hierarchy thanks to machine learning. Put differently, machine intelligence is demonstrated to improve the effectiveness and execution of a specific collection of experience-based knowing. Machine learning has several uses, including pattern identification in handwriting from pens and pencils, handwritten zip codes from envelopes, character recognition in letter gaps, and font size differentiation [6]. Other significant uses are for the weather, banking statements, mechanical device diagnostics, preventing electric transformer failures, accelerating natural language interfaces, and testing spacecraft engines for space shuttles [13]. Nowadays, machine learning is applied in a wide range of fields and, as it develops, provides us with security, stability, and dependability.

### ***Deep Learning***

Artificial intelligence has seen a breakthrough in deep learning, which is more sophisticated than a traditional machine learning algorithm. Multiple processing layer computational models is made possible by deep learning, which also learns a wide variety of high-level abstraction data representations. Another method for expanding the technological potential of machine learning is deep learning. Among the uses are enhanced speech recognition, object detection, visual object recognition, and booming image, video, and noise tampering. Among the essential benefits of In-Depth Education is that performance increases faster the more compressed data it gets [11].

### **Psychological Well-Being**

"Psychological Well-Being" is a term that refers to the condition of consciousness of their thought process and their life is travelling in a positive direction. It's composed of feelings of good and joy being able to work efficiently. To be happy, people do not have to be happy all of the time.; unpleasant feelings like disappointment, failure, and despair are unavoidable things in part of life, and if an individual happens to monitor and handle the negative effects effectively it has the tendency to have long-term effects on life satisfaction and optimism. Severe or long-lasting negative emotions might interfere with an individual's ability to lead a normal life jeopardizing psychological well-being.

Many emotions are included in psychological well-being. Good interpersonal relationships, positive self-perception, social mastery, making life worthwhile, and assuring individuality and healthy growth are just a few of them [16]. Psychological well-being is intimately linked to mental health and is the cause of many difficulties that arise in a person's life The psychological well-being of an individual and their demands are closely related. Individuals' demands for psychological well-being should be thoroughly assessed, and these requirements should be provided in accordance with their growth task [19]. Psychological well-being also includes spiritual satisfaction, self-determination, freedom, tolerance, creativity, and deep social interactions [7].

Even if people are conscious of their own limitations, they want to feel acceptable about themselves. Individuals will have the need to create and go through a pleasant, comfortable and trusted interpersonal and intrapersonal relationship. People try to change their surroundings to satisfy their particular wants and desire. People try to maintain their individuality and control their own emotions and aspire to their self-determination in the encoded framed society. Finding meaning in one's work and challenges is a critical undertaking purpose in life. Finally, PWB emphasizes the need of maximizing one's strengths and abilities.

### **IoT Can Improve the Quality of Work and Life**

The Internet of Things (IoT) Fig. 1 can improve the quality of work and life in a number of ways, including:

- **Security:** IoT can provide security and surveillance for unwanted entries.
- **Control:** IoT can enable precise and safe control of electronic devices.

- **Supply chain management:** IoT can track items from production to delivery, making the process less complex.
- **Data analytics:** IoT data analytics can provide businesses with insights into their operations, enhance data security, and help them make data-driven decisions.

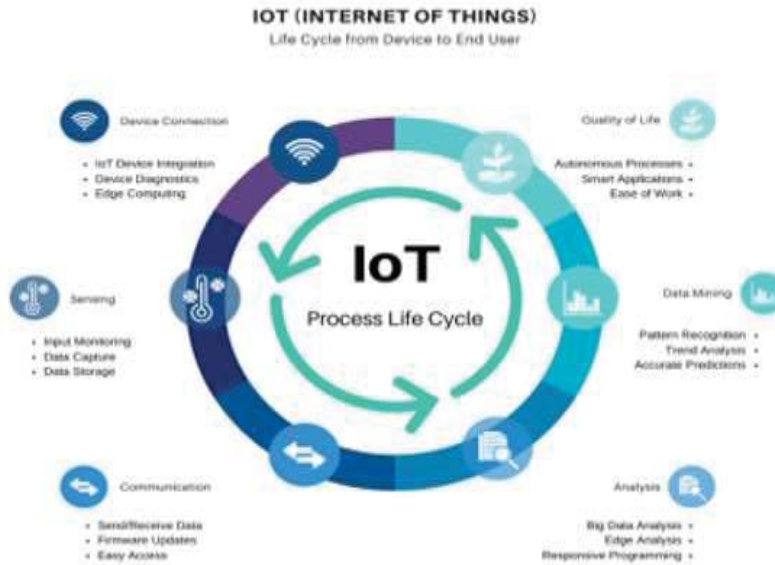


FIGURE 1. IoT Process Life Cycle

## IoT Awareness

Sometimes we simply refuse to accept them and label them as bad, or we use them without real comprehension. The automation of building a machine with human-like characteristics comes from the disciplines of biology, arithmetic, math, biology, neuroscience, computer science, philosophy, psychology, and sociology. The result is under everyone's eye, from the rise of cybercrime to the rise of internet dependencies and the apparent shrink of interpersonal relationships is full of examples of how we still badly cope with the new technology. Laws are also affected by this difficulty in comprehending the new environment, as management culture as well. IoT awareness is, therefore, more important, since it is the way more pervasive than our actual technology. Top IoT Application shown in fig. 2.



**FIGURE 2.** Top IoT Application

From a cultural point of view embracing IoT means, first of all, the awareness of IoT and its implications. This awareness and understanding will be shaped while IoT grows and becomes part of our life, but if we start to talk about the cultural impact of something when it is already there, it is too late. An AI-equipped machine's primary functions include gaining knowledge, researching, delving into issues, coming up with accurate fixes, performing entity-level predictive analysis, and enhancing risk evaluations for particular features [14].

## DISCUSSION

When implementing AI, many businesses frequently overlook the significance of non-technical aspects in favor of concentrating on the use of emerging innovations. Leadership, psychological well-being, organizational culture, the quality of work life, and employee reaction to new technologies are all factors in the adoption of AI and IoT, which will alter how businesses handle their clientele and have an effect on their sustainability. In an attempt to better integrate their organizations with data, many companies are embracing AI and IoT. However, many of these initiatives fail due to the dynamics between leaders and the organization. This issue is frequently attributed to customer demands, which fall under the purview of service management for the company's clientele. According to this report, changing company culture is essential to implementing AI and IoT. The process of integrating AI and IoT into a changed production process is mirrored by employees at every level of the organization changed the top-down leadership of K Company. This led to a later study of the variables influencing AI and IoT adoption in Taiwan. Artificial Intelligence has become commonplace in the industry, replacing human labor with robots [9]. The study's findings support the notion that corporate culture has a significant effect on how quickly AI and IoT are adopted. Furthermore, workers are resistant, therefore a manager's guidance and incentives can encourage workers' collaboration. It may increase the product or service of the company's worth through the combination of AI and IoT technologies.

The more AI and IoT are promoted, the more data a company will produce, but additionally, competent and driven organizational modification will change the culture of the organization. This study discovered that corporate culture influences things a lot on the product or service of the company. Employee resistance to the cooperative interaction between people and machines will increase when they are presented with copious amounts of data and knowledge, which might result in cultural shifts inside the firm. Organizational culture is undoubtedly influenced by leadership, but an organization's service management outcomes are also positively impacted by providing incentives to staff [10] created a system of recommendations based on an emotional web surfer that can accurately assess ambient data on users' emotions to propose a successful webpage. Employee self-commitment to the company, on the other hand, also influences organizational culture. This means that workers who exhibit a high level of self-control and dedication to staying on task and accomplishing organizational goals will transform the company and have an impact on service management. Although a company's management are ultimately in charge of creating an open organizational culture, businesses could promote human-machine collaboration by prioritizing employee well-

being and job excellence. The advent of artificial intelligence (AI) has brought attention to the significance of corporate organizations in decision-making, as opposed to the past when businesses frequently depended on the charisma of their leaders. This has resulted in the development of a decentralized concept of organizations, thereby lowering the likelihood of decision errors.

## CONCLUSION

This study can aid in understanding how businesses, especially those that outsource, can improve the efficacy of their service management. Nevertheless, creating an organizational culture is still crucial. According to this study's implications for business management, operators must maintain their focus on service management while aggressively promoting human-machine collaboration using AI and IoT technologies. To make sure that the appropriate information is available to target consumers, businesses need to precisely arrange their networks with other units and collaborate with one another. With the help of IoT and intelligent technologies, AI and IoT can facilitate decision-making between people and machines, between humans and humans, and between humans and machines. They can also help connect people within the value chain, improve agility in response to changes in the environment, and realize service-oriented architecture (SOA) through the information exchange that the system provides. Businesses are, of course, made up of individuals. Even while Industry 4.0 has made it possible for people and machines to work together more closely, has increased productivity, and provides better customer service, employees still have to accept the adoption of new technologies, which will divide their workload and cause opposition. In conclusion, a promising avenue for improving work-life balance and employee wellbeing is the use of AI and IoT to corporate culture evaluation and enhancement. Employers who implement these technologies may see increased worker happiness and health as well as increased productivity and overall business performance. Future research should examine the long-term effects of these therapies in greater detail, and the methods employed should be enhanced to optimize the outcome.

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