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AGILE HUMAN RESOURCES PRACTICES IN DECENTRALIZED AUTONOMOUS ORGANIZATIONS: A CONCEPTUAL STUDY

ESIN YÜCEL KARAMUSTAFA
Altinbas University, Turkey.

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ABSTRACT

A decentralized autonomous organization (DAO) is an organization that is decentralized, autonomous, transparent, controlled by community members, and represented by coded rules as a computer program not influenced by a central government. As DAOs are rapidly evolving into a new category of organization today, they represent a unique opportunity and challenge. And these unique organizations must be agile in terms of human resource practices and adapt to transformation. The smart contracts needed for the continuity of the business processes of the DAOs should be followed by the human resources function in decentralized autonomous organizations that are about to change the perception of management and organization in minds will transform and how successful the agile human resources model will be. As a result, DAOs are still in the development stage and some problems may arise from smart contracts that provide the operation.

I. INTRODUCTION

A decentralized autonomous organization (DAO) is a leaderless governance model managed by its members, automated through computer codes, open to everyone's participation, and structured democratically and transparently. In the related management system, some of the processes are carried out through smart contracts without human intervention and involvement. The emergence of DAOs is based on the venture fund the DAO, which is owned by the Ethereum blockchain.

In DAOs, which are free from the hierarchical structure of the traditional organizational structure, binding formal contracts are not made with the employees and members. On the contrary, the goal is to align the interests of the organization with those of the employees in the long term. All organizational regulations of Bitcoin, which was accepted as one of the first DAO, were determined by the jointly designed protocol, and then protected by Bitcoin investors. Although the DAO is an organization created to store and transfer cryptocurrencies without a central unit that coordinates the system, we can say that the areas where the DAO is currently used and will be used in the future are far beyond this.

In DAOs, high participation in decision-making processes is given importance to achieve fair results. Participation is important even in the smallest decisions. Inevitably, the human resources function of organizations that can work effectively without a central authority should also be quite agile. Because it would be unrealistic to expect human resources (HR) to operate with traditional methods in democratic and autonomous systems that are free from hierarchy and that can perform most of their processes without human involvement.

Today many HR professionals describe themselves as referees who mediate between the leader and the team, but ultimately report to their superiors regularly. It is expected that traditional human resources departments will vanish in computerized organizations where the hierarchy has come to an end. However, it is not possible to legally carry out all processes in organizations without human input. Therefore, DAOs are not completely self-sustaining. Digital-based agile human

resources methods that aimed to maintain their existence have given their focus to the structuring of digital contracts and protocols.The main aim of this research is to present a projection about agile human resources practices for decentralized autonomous organizations.

II. LITERATURE REVIEW

Decentralized Autonomous Organizations (DAO)

Throughout history, technological revolutions have altered the way we work. After the hunter-gatherers, the farmers gained importance. Then mechanical looms appeared, and farmers became factory workers. With the advent of automation and computers in industry, factory workers became office workers,and the internet fundamentally altered the way we work. Now, a new transformation is on the horizon that will change the way we work again: Web3.

Web3 represents the next phase of the internet. Built with the influence of blockchain and cryptocurrencies, Web3 is more decentralized and transparent, as well as brings more common ownership. According to Chris Dixon, partner at Andreesen Horowitz, a venture capital firm, Web1 consisted of read-only threads, and Web2 was read and write (social media). Web3 includes read, write, and property. Web3 is already starting to transform the way we work. Decentralized Autonomous Organizations (DAO) will be the leverage effect for this transformation (Larimer, 2019).

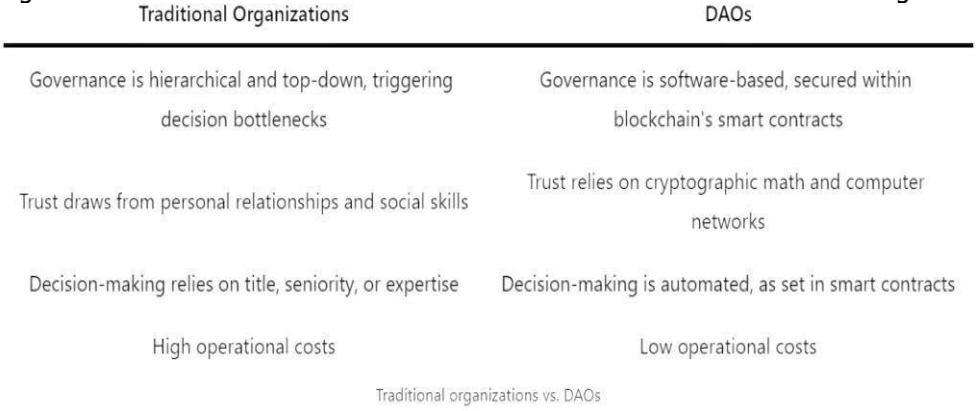
The DAO is a decentralized, autonomous, transparent, community-controlled organization that is not influenced by a central government - represented by coded rules as a computer program. Therefore, it has the ability to work autonomously, without a central authority. To explain the concept of a DAO in a simpler way, it can be compared to a company that is jointly managed by only employees without managers. DAOs are a novel type of organization that is particularly prevalent in the Ethereum blockchain ecosystem (Chohan, 2017).

A decentralized autonomous organization uses blockchain to facilitate self-enforced rules or protocols. Of course, keeping these rules with blockchain smart contracts encourages token users to protect the network and vote for the rules. A DAO consists of the following three steps; (1) First; developers need to fully grasp the governance issue they are trying to code. The next step will be to create a successful smart contract to form the basis of the DAO. (2) Policies called tokenomics are defined by the developers in order to balance the place of malicious acts in the reward-punishment system, for example, in matters such as printing money. (3) Developers often opt for a blockchain-powered DAO that stakes the same tokens as other stakeholders. In this way, a power imbalance in the market is prevented. Then, over time, most developers drop their stakes.

In the Ethereum Whitepaper, Vitalik Buterin defines a DAO as a "virtual entity with a specified group of members or shareholders that has the right, perhaps by a 67% majority, to spend the organization's funds and change its management." This definition is different from DAO definitions based on the working logic of Bitcoin. DAO is defined not only as a technology that makes reliable crypto money transfers but also as a technology that decentralizes the management of a traditional company or non-profit organization using cryptographic blockchain technology for implementation (Buterin, 2013).

The differences between decentralized autonomous organizations (DAO) and traditional organizations can be summarized as follows;

Figure 1. Differences between Traditional and Decentralized Autonomous Organizations



Today, DAOs are of great importance for decentralized finance applications. DAOs or Decentralized Autonomous Organizations are required for the functioning of finance applications that

are centralized and transparent with the blockchain. The decentralization of decentralized finance applications, where there are no mechanisms such as DAO, cannot be mentioned in the context of management. Only within the framework of infrastructure can its decentralization be discussed (Buterin, 2013). DAOs, which are used in parallel with decentralized finance applications, ensure the participation of investors in the decision-making mechanisms of applications, thereby eliminating the monotony of applications. Thus, investors have the authority to create and vote on the financial protocols they invest in. In addition, by giving access to the management functions in smart contracts of DEFI applications to DAOs, these functions can be triggered by investors (Dhillon, et al, 2021).

DAOs allow a group to be organized around a mission and goal and coordinated through smart contracts that are immutably and autonomously implemented on the blockchain. Because DAOs are independent of the influence and goals of an external agent, they represent an evolution in how people coordinate with one another.DAO's rules and transaction records are transparently recorded on the blockchain. Rules are often determined through stakeholder votes. The fact that organizations are autonomous means that most of the processes are carried out by smart contracts without human intervention (Norta, 2016).

A DAO is similar in some ways to a company or nation-state but operates more decentralized than that. While traditional organizations work with hierarchical structures and have many layers of bureaucracy, DAOs do not have hierarchy. DAOs allow firms to create organizational forms that go beyond top-down hierarchical management models, where groups of participants must respond to the needs of a board of directors or shareholders. In fact, DAOs eliminate or minimize managers and their roles in the organization, based on transparent rules that apply to all members and participants.They are more transparent than traditional companies as all actions and finances in the DAO are publicly visible. This significantly reduces the risk of corruption and censorship (Wang, et al, 2019).

There are numerous unresolved issues with DAOs, particularly issues such as regulatory compliance, benefits, recruitment, talent retention, revenue volatility, and governance. Yet, DAOs have the potential to solve, and coordinate these problems in ways that may become increasingly necessary to solve established 21st-century problems. As DAOs become more common, we may shift to working for multiple DAOs instead of working 40 hours a week for a single employer. We are already seeing this model being used among early adopters of this technology. Today's content economy of vloggers, bloggers, and podcasters provides a clue as to what Web3 will look like. In this particular system, content creators gain income by coaching or consulting through platforms such as Patreon, YouTube, and SubStack.

The technology-driven nature of DAOs can automate simple algorithmic tasks, releasing employees to devote time to what they find most creative and useful. Thus, people can spend more time on high-value activities that enable effective work and less time on monotonous and superficial tasks.

DAO members will be able to vote in the process of making important decisions using organization governance or native tokens. Everyone who owns the governance token of the DAO has voting rights in proportion to the number of tokens they own. Token holders can vote on decisions made through the DAO (Hsieh, et al, 2018). They may also make proposals for changes to the functioning of the DAO. In Snapshot, which is a decentralized voting system, individuals can see what kind of issues are voted on. On the other hand, VitalikButerin, the founder of Ethereum, which an open source blockchain that forms a core layer of most Web3 applications, criticize existing voting mechanisms. So, these voting systems will likely evolve (Lee, 2018).

Considering the possible role of Human Resources in DAOs, it would be unrealistic to expect human resources (HR) to operate with traditional methods in democratic and autonomous systems that are free from hierarchy and can perform most of their processes without human involvement. However, it is not possible to legally carry out all processes in organizations without human input. Therefore, DAOs are not completely self-sustaining. Digital-based agile human resources methods that aimed to maintain their existence have given their focus to the structuring of digital contracts and protocols. Smart contracts enable DAOs to work with minimal human intervention. This intervention is also carried out by the human resources function.

Agile Human Resources

Human resources management (HRM) has to renew itself all the time in a globally competitive environment that has become more complex with the rapid increase in digital and

technological developments.Due to the developments brought about by applications such as Industry 4.0, big data, the internet of things, robotic process automation, artificial intelligence, 4G and 5G, it has been necessary to make some changes in the performance evaluation and wage determination, training and career planning of employees who have gained new skills.Digital technology, which radically changes all production relations and consumer behavior, needs human resources with the appropriate competence and talent for changing labor market (Tekin, 2021).

Sanjiv Augustine, co-founder, and CEO of education firm LitheSpeed, describes agility as "the ability of organizations to respond to change with speed." The largest local bank in the Netherlands, ING, has transitioned from a traditional organizational structure to the agile model implemented by leading digital pioneers such as Google and Spotify as of 2015. For companies to be more agile, HR departments will need to take on new roles and responsibilities, which will require HR to reshape its structure and operations to provide flexibility.Nowadays, organizations often encounter Agile Methods to speed up the product development processes of software development teams, to increase quality, and to find answers to the need to develop the right products by getting quick feedback from the customer.

An agile organization consists of highly disciplined teams that can organize themselves. With the rapid development of Decentralized Autonomous Organizations, the validity of human resources, which is one of the fundamental functions of businesses, has begun to be questioned (Robinson, 2019). The transparency of the Human Resources departments and the adoption of agile methods in their processes bring cooperation, harmony and innovation, and teams that cannot adapt to these methods unfortunately lag behind. Studies show that the adoption of agile human resources methodologies provides higher efficiency in production costs and speed, project management, and quality improvements (Huzooree and Ramdoo, 2015).In the study conducted by Coşar in 2020, it was observed that digitally talented people are also more inclined to agile human resources practices.In this context, organizations that aim to implement agile methods should consider developing their employees in terms of technology.

According to the "Future of the Profession 2020" report published by the World Economic Forum (WEF), 4 basic competencies that will come to the fore in the future in the digitalization process are: Problem Solving, Personal Management, Teamwork and Technology Use/Development. These four features, announced by the World Economic Forum, should be at the top of the list of features sought by agile human resources departments.

Organizations that apply agile human resources methods; are more prone to making mistakes and tolerating mistakes in the learning path than traditionally structured companies. Therefore, they see failures as experiences. At this point, HR departments can make the learning process more beneficial by organizing training in the necessary departments or by changing mentors (Ulrich,1997). In companies that adopt an agile organizational culture; work distribution, duties, competencies, and goals are transparent. It is clear who does what.

According to Ulrich (2009), a company's digital and agile HR journey consists of four phases:

Phase 1

Efficiency; At this stage, companies invest in and build technology platforms where they can efficiently manage their HR processes. Large global companies mostly choose platforms such as SAP, Oracle, Workday, and startups, and scale-ups mostly choose platforms such as BambooHR, Lever Hire, and Greenhouse at this stage according to the needs of the company.

Phase 2

Innovation; The extent to which we use technology to renew our HR practices comes into play at this stage. For instance, moving recruitment processes to online platforms. Utilizing various online training platforms for employee development. Utilizing autonomous applications to standardize performance evaluation processes.

Phase 3

Knowledge; In traditional ways of working, access to information empowered leaders because they had more information than their employees. Today, with open access to information through technology, information provides the ability to make better decisions rather than power. Organizations are also investing more in data analytics, big data, predictive analytics, engineering teams, and provide easy access to information to guide their decision-making processes.

Phase 4

Commitment; While digital HR processes enable efficiency, innovation and knowledge, the most important impact of digital and agile HR transformation will be on "commitment". In the design of the process, it is necessary to focus on emotional commitment, both the bond between employees and the employee experience. For this, HR teams can produce various activities, social responsibility projects and organizational ideas in a way that will connect people by using technology (Ulrich, et al. 2009).

Feyza Narlı, General Manager of ManPowerGroup Turkey stated that; "Companies that invest in agile management are more proactive and capable of being more proactive in managing changes. They are able to offer quality products or services in a short time. As a result, customers' and stakeholders'satisfaction increase rapidly. They can also take action very quickly in solving possible problems and crises. Agile management vision increases employee loyalty based on transparency and open communication within the organization. Many companies around the world are restructuring their human resources management and adopting HR strategies suitable for agile management, called the 'HR agile model'. This model primarily enables companies to transform from classical organizational structures to more matrix project and output-based organizations. The HR agile model has a mission and focus that supports the organizational culture."

Therefore, performance evaluation is expected to be effective and transparent in parallel with this. At this point, the human resources department can apply a more interactive, face-to-face, real-time feedback or 360-degree performance evaluation method, where the employees can express themselves instead of traditional and useless scoring systems (Revutska and Marsikova, 2021). Such a system will be more transparent and open for employees and will support their career and performance development as it is solution oriented.

Agile-driven human resources approaches differ from plan-driven human resources approaches in many ways. Studies show that the adoption of agile human resources methodologies provides higher efficiency in production costs and speed, project management, and quality improvements (Huzooree and Ramdoo, 2015).

According to Odgers Berndtson (2019), there are five steps that organizations need to implement, including human resources practices, in order to achieve agile transformation. (1) Invest in talent management; It is predicted that by 2030, 85% of working life will be composed of jobs that have not been invented yet. In order to benefit from the exponential growth possibilities created by the transformation environment, a multi-layered, in-depth talent management approach is essential. (2) Perspective must change; Organizations and leaders cannot easily access talents they can direct and motivate for their future success and innovation models. Different perspectives should be brought to the agenda as quickly as possible in order to define, assign and employ special talents that will take part in the commissioning of new business models such as Agile. (3) Conscious plan must be made; While agile management brings different flexibility such as being completely independent of the place; It also brings up a consciously constructed 'governance' model and the necessity of defining the core team meticulously, with a sense of duty and objectively. The importance of making these evaluations with the right stakeholders, creating a common mind and a conscious construct is increasing rapidly.

The responsibility of c-level managers is increasing. The importance of dealing with digital transformation processes and their results with human dimensions is increasing day by day. It is the most important strategic step for C-Level managers to advance by establishing and continuing to develop the right teams with the right governance models inside and outside the company, in these conditions where performance expectations and needs are increasing and becoming more complex. (5) The experience stands out as a process; It should be emphasized that if we want to recruit the best talent, it is essential to review it both in terms of processes and experience, customize it according to our institution and goals, and harmonize it with the digital experience.

As per Michael Page Senior Manager Hakan Çönbez;"The basis of the agile working methodology is to meet the needs of your customers and employees quickly and flexibly. The agile organizational structure moves organizations away from the hierarchical structure and transforms them into a more horizontal. This system is structured as a business model with its own rituals, where there are no unnecessarily long meetings, all employees feel valued."

In companies that follow agile human resources practices, decisions are taken in the form of prioritization and short-term, rapid actions. In this way, there is a horizontal hierarchy that supports

quick decision making. Inter-team communication is also very important. It has been stated that employees in agile companies have a high rate of adaptation to changes and crises and approach problems more creatively. At this point, human resources can design a process that focuses on integrity, harmony, and cooperation instead of promoting individuality and working alone in the workplace. Practices such as collaborative relationships, inspiring/mentoring and engaging are all part of this process (Klaas et al., 2012).

Consultant Bankston has introduced several principles for organizational agility. These; choosing self-governing groups instead of a hierarchy is to design a process that focuses on integrity and cooperation rather than working alone. It also underlines the need to design 'humane work environments, flexible working times and spaces, tools, approaches and a common purpose' for the well-being, motivation, and development of employees.

Since DAOs are still in development, there is no widespread legal regulation yet. Legal responsibilities, interference with autonomous operation, whether decentralization will be restricted to a certain extent and tax issues are the subjects that are expected to be regulated. On the other hand, Wyoming, one of the states of the United States (USA), made a regulation on DAOs in 2021 and gave DAOs the rights it granted to limited liability companies (LLC-Limited Liability Company).

Agile human resources approach; with the strategy of increasing the agility of the human resources organization; It requires the implementation of programs that will increase cooperation, visibility, innovation, motivation and speed in the way of working (McIver, et al, 2018). In the future, we will hear concepts such as 'agile performance management', 'agile compensation' and 'agile recruitment' more often. Agile organizations can only survive with agile leaders.

Human Resources Practices in Decentralized Autonomous Organizations

With the effect of pandemic, business environments have become different, digital platforms are used more. Within this process human resources, was the main function that managed the crisis in order to ensure the sustainability of the business. The human resource function has contributed to the agile adaptation of companies to this transformation both in the pandemic and in the rapidly digitalizing process (Kavitha and Suresh, 2021).

Numerous individuals who working in the field of technology think that the concept of the metaverse can replace the internet. This idea requires especially internet-based organizations to adapt quickly to the metaverse. Decentralized Autonomous Organizations are one of the most well-known internet-based, meta-technologies that we will hear more about in the future (Heilmann, 2020).

DAOs have important structural differences because they are different from hierarchical firms, they are composed of individuals and small teams that act in line with their own goals and determine their own management styles. As such, hiring, firing, performance appraisal, conflict management or retirement processes are also different from hierarchical organizations.

There are some issues that human resources department managers in DAOs need to review; (1) Making a Plan by Revising the Process: HR managers should reorganize their business plans by following current developments in digitalization in order to make their business processes more efficient. Which of the new technologies developing in the digital world can be useful for the institution and how they can be used should be determined and a new roadmap should be created. (2) Being able to manage the process quickly: In today's business world where there is a tough competitive environment, it is important to use the innovations offered by digitalization effectively and to realize this with faster and smarter moves than others. (3) Being a "Learning Digital Organization": HR managers should be able to ensure that the institution they work for adapts to these changes and becomes open to innovation and transformation. It should examine the new working order developed for digitalization, and follow the motivation and performance of the employees. (4) Providing Performance Management in Digital: By using the necessary technologies (online forms, online meetings, etc.) in digital and agile human resources management, it is necessary to measure and develop the performance of the employees according to the organizational goals, to increase their motivation and skills, and to ensure that the sense of belonging to the work is not lost (Bayarçelik, 2019).

As in all centrally managed companies, the human resources department in DAOs is also responsible for the recruitment processes. They also help resolve conflicts between contract employees and assist in enforcing employee termination policies. In DAOs, the human resources

department should primarily aim to maintain an organizational culture that is free from subordinate relationships. On the other hand, since all employees are affiliated with the institution in transparent contracts, human resources departments are also responsible for the processes of structuring and monitoring these contracts (McMackinand Heffernan, 2021).

III. CONCLUSION

Today, many businesses have turned into digital businesses. Information technologies, which are the main source of transformation, have made it necessary to reinterpret and design the managerial processes in organizations, and it has been revealed that the survival of organizations is also directly related to the adaptation to these information technologies. Digitalization and the advantages it brings together clearly reveal the necessity of dealing with information technologies from a strategic point of view by organizations.

Organizations that want to survive in the meta-future will have to redesign and define their HR and talent management practices to increase agility. The age of digital transformation is also changing management methodologies from scratch. Those who do not, will put their organizations at risk of becoming outdated. The transformative effects of the change in technology in social, cultural, and human dimensions have reached extremely critical dimensions. Humanity has to adapt to this change faster than ever before. Because it is observed that individuals and organizations that cannot quickly adapt to this change are excluded.

Since the concept of decentralization for organizations first emerged, many people emphasized that the effectiveness of the human resources department would be lost. But even in the meta-world, performance, hiring, contract, and salary regulations still exist. Those responsible for all these delicate balances concerning organizations are still the HR departments.

If we want to understand how human resource management should function in a DAO governance model, we will need to examine exactly how a decentralized autonomous organization works. The anti-hierarchical approach in the governance system of the DAOs makes the way human resource functions work differently. Removing centrallly decision-makers completely, especially from a complex and decision-centered role such as human resource management, raises question marks and uncertainties for companies entering the decentralized space. Currently, there are many uncertainties in blockchain technologies. When deficiencies in the context of human resources practices are added to these uncertainties, the efficiency and trust environment of companies may be adversely affected.

In the business ecosystem, which is expected to be dominated by meta-technologies in the future, DAOs that want to take their place in an efficient way should also pay attention to agile human resources practices and be able to adapt to rapid change and transformation. In the related literature, there is very little research currently focusing on decentralized autonomous organizations and possible human resources applications.

Only through Agile HR practices will human resources departments survive in decentralized autonomous organizations. With the direct effect of digitalization, the rapidly changing organizational structure will continue to exist with a very distinct structure in the new world order. Human resources management, which is considered as one of the cornerstones of the traditional organizational structure, is losing its importance against the new structure based on technology, robotics and data. This being the case, the presence of human resources in the new model of digital organizations based on contracts, where everyone has equal voting rights, also supports to regulate and correctly implement these needs. In this process of change and transformation, it is obvious that human resources practices that are outdated are doomed to disappear gradually.

In addition, the fact that individuals in DAOs hold enough "tokens" to make decisions is also seen as one of the problems that may hinder democracy. Essentially, it is the human resources departments that need to predict and control errors that may occur in smart contracts that might affect operations.

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