2020
BLOCK-
CHAIN
e-Workshop

Bilişim Vadisi
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Bilişim Vadisi **Blokzincir** e-Workshop Final Report

2020 BLOCK-CHAIN e-Workshop

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This workshop was held online, and none of the participants met in person

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Introduction

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The e-workshop, which was held on December 22, 2020, with the involvement of over 100 eminent participants with experience in the field of blockchain, focused on three main topics:

- Financial Technologies
- Smart Cities
- Private Sector

Participants contributed to the compilation of our report by answering the questions posed to them.

One of the most significant outcomes of the e-workshop was the consensus that blockchain awareness in Türkiye should be increased. A priority target was to ensure that entrepreneurs, investors, lawmakers, and users have more extensive knowledge in this field and are aware of the strategic position they will be in in the future.

The Blockchain Research Network - BAG (www.bag.org.tr), implemented by Tübitak BILGEM, is an important start in this field.

It was mentioned that blockchain does not only refer to cryptocurrencies, but also has the capacity to impact other industries and that success stories should be built through establishing numerous projects.
In the case of cryptocurrencies, there have been discussions about creating Turkish cryptocurrency. The significance of the BiGA project, which enables the recording of physical gold on the blockchain, and the importance of disseminating this knowledge were emphasized.

> As a result of increasing blockchain awareness, signing exemplary projects, and supporting the ecosystem, Bilişim Vadisi has emerged as the place that can be seen as the center for all of these works.

Furthermore, it was noted that a Blockchain Cluster to be established within Bilişim Vadisi could be a significant milestone that can fill the gap in producing exemplary projects in Türkiye.

The issues discussed and opinions presented during the workshop are summarized in Chapters 2 and 3.

2020 BLOCK-CHAIN e-Workshop

CHAPTER 2

General Questions

- What is the current state of blockchain startups in Türkiye? Do they receive any investments or incentives?

Financial Technologies

Startups are frequently far more active around the world in countries with funding structures. The lack of legal infrastructure related to blockchain in Türkiye has a detrimental impact on investments in this field.

In addition to this, companies in the cryptocurrency industry appear to have a better track record of attracting capital. More concretely there is no doubt that Bitcoin is in high demand. Banks, which are the pioneers of digital transformation in Türkiye, are unable to provide much support to blockchain projects due to a lack of clear legal infrastructure. The development of legal infrastructure and government incentives to support this field will increase the number of blockchain projects. Hence, Blockchain startups require a significant amount of capital.

Uncertainty and high costs discourage investors from investing in blockchain. Case studies on the blockchain are being prepared in order to reduce the effect of obscurity in our country. It would be beneficial to investigate Blockchain Türkiye, which is a platform where startups can introduce themselves and seek investment.

In addition to financial assistance, essential working areas are also required to ensure the formation of a growing Blockchain ecosystem. Platforms should be built to bring banks, universities, and developers together in this environment. A serial investment culture can be formed in Türkiye to help grow and establish the blockchain culture.

> **One of the reasons that the number of companies investing in startups in Türkiye is limited is that the subject is foreign and fictitious to investors. Investors are naturally hesitant to invest in subjects that they do not fully comprehend and cannot explain.**

The sale of the developed products is also crucial. For this reason, it is necessary to create support for the sale of products. Network management should be provided by the relevant institutions in this regard.
In many cases, the amount of support/incentive provided to startups is minimal. Bureaucratic challenges can delay progress. Funders are sometimes afraid of blockchain. People tend to keep their ideas to themselves due to the ease with which project ideas can propagate globally.

While € 2.5 million per project can be invested in blockchain projects in Europe, a similar amount of investment in Türkiye remains extremely high. Investors in Türkiye are unable to remark accurately on the investment due to a lack of expertise on the subject, hence they remain absent.

The negative experiences with cryptocurrencies may also be contributing to this abstention. As a result, the blockchain topic remains unfamiliar to the investment community. When blockchain and cryptocurrencies are confused, insecurity might emerge. This is due to the absence of regulation on cryptocurrency.

Smart Cities

Blockchain knowledge of startups remains quite low. Awareness needs to be created in this regard. It may be advantageous to create programs that raise everyone's awareness of the platforms they use.
Due to the fact that the blockchain is evaluated over Bitcoin and Ethereum money in Türkiye, its use in other fields is lacking. When attempting to use it, studies are typically conducted as a database or on data servers.
The number of startups is not enough. In Türkiye, the logic of startups is currently not understood correctly. For this reason, very few startups focus on blockchain. Blockchain needs to be explained to people. Concrete examples should be provided, and public understanding of what they can do in the future can help us move forward. There are no institutions, organizations, and incentives to understand the problems of those who possess the requisite information. Initially, a structure can be established on the awareness of the subject.
Turkcell is working on blockchain. Because the field is multidisciplinary, a collaboration between institutions and organizations is possible. Large organizations must learn from and collaborate with startups and universities.
Entrepreneurs have a tough time convincing investors since blockchain technology is an immature and multi-component investment area. Therefore, it is difficult to find commercial partners.
Difficulties may arise in the field of incentives because we do not understand the issue technologically (country-wide).
New entrepreneurs have the problem of explaining themselves to investors. If the investor does not have a technical team that is specialized in the blockchain work that he intends to do, the entrepreneur will be unable to explain his intentions to the investor or be understood by the investor. Until now, an investor who has invested in a blockchain startup has not been heard of in the investment world.
As a solution, universities can organize formal education and entrepreneurship programs to promote startup culture and encourage studies other than cryptocurrency. Kadir Has University has been working on training students in this regard. For the past two years, cryptocurrency and blockchain training has been provided. Each student is asked to develop a project on blockchain. Incentives can be increased by cross-matching support mechanisms with startups and universities. It is required to establish investment and incentive mechanisms.
Companies can train part-time or intern students in coordination with universities. Universities can coordinate this plan.

Private Sector

The investment and incentive conditions are excellent, and there is no problem in taking advantage of them. Digital ID-based companies are supported by the state.

- Is there a sufficient number of blockchain technology providers in Türkiye? Can institutions and organizations that wish to work on a blockchain project easily find subcontractors?

Financial Technologies

It is possible to say that the number of technology providers remains insufficient and that we are behind the best practices in the world. There are not enough stakeholders to take joint roles in blockchain projects. One reason for this is the lack of mechanisms to bring stakeholders together. On the other hand, deficiencies in the regulations make it difficult to find stakeholders.

Many stakeholders from various disciplines (law, finance, science, and information security) must collaborate on blockchain projects. The issue of teams from various disciplines collaborating to create successful blockchain projects appears to be underappreciated.

This situation can also create difficulties in the search for the right stakeholder. It is possible to get support from Bilişim Vadisi in finding stakeholders.

Subcontractors with the required competencies are not easily found. As blockchain projects grow more prevalent, subcontractors will be easier to find.

> **The fact that blockchain is relatively young and that qualified human resources are scarce makes it difficult to find suppliers in this regard.**

In addition, blockchain data must remain in Türkiye and be protected. For this reason, it is necessary to establish blockchain infrastructure and infrastructure providers such as Amazon and IBM in Türkiye.

Institutions in Türkiye may be required to collaborate with data center providers such as Amazon or Microsoft. In Türkiye, these infrastructures can be built, but the emphasis on blockchain prohibits these investments from being undertaken. In order to reduce the effects of this negative situation, information and education processes should be expanded. In terms of the number of startups and subcontractors, blockchain technologies are a more advantageous area from the perspective of the finance sector.

However, training, experience, and experience gains are required to increase competencies. When analyzing suppliers and startups, previous experiences and completed projects are also helpful.

Smart Cities

Large institutions should properly express their problems and support startups in this regard. Since startups are not supported, large organizations have difficulty finding subcontractors.

Although it is relatively easy to establish a start-up, when the government support is cut, the companies are closed because they do not have a business model in which they are established.

Rather than focusing on the inadequacy of technology providers, it is necessary to emphasize the significance of a qualified workforce in terms of how they can be sufficient. Efforts should be made to train people with blockchain certificate programs. Firms are struggling to find personnel. Existing software developers struggle to comprehend distributed architectures. Rather than finding subcontractors for solutions, companies face the problem of finding and training personnel.

In the physical sense of blockchain, there is a need for the development and enrichment of both hardware and infrastructure systems. Technology orientation can be achieved by contributing to the development of platforms. The number of communities on this subject can be increased. It is necessary to activate local communities. Universities and academics should provide support in this regard.

Before institutions and organizations can begin working on a blockchain project, existing infrastructures must be electronically transformed using infrastructures such as SCADA, which is a comprehensive and integrated data-based control and monitoring system.

Private Sector

There is an adequate number of blockchain technology providers in Türkiye whereas there are not enough technology providers. Well-established organizations want to collaborate with institutionalized companies. They do not prefer small infrastructures. B3Lab and Turkcell provide infrastructure services. Telecommunication companies provide services within the scope of digital transformation.

According to the ecosystem map prepared by the MUSIAD Blockchain Working Group, the number of companies operating in the field of blockchain in Türkiye is 36. Only ten of them work as technology providers.

You can reach the other map prepared by Blockchain Türkiye regarding the sector from the link.

https://bctr.org

- What kind of contribution and support do you expect Bilişim Vadisi to make to the blockchain ecosystem?

Financial Technologies

Education and Labor Force

Bilişim Vadisi, in cooperation with The Council of Higher Education, may make it mandatory to open courses on blockchain at the rectorate level. Bilişim Vadisi should create a catalyst effect. There are now courses on this subject, especially at private universities, and students benefit from these courses. State universities should also take action to train qualified personnel to work on blockchain projects. In addition, training materials and documentation should be made available.

Infrastructure Activities and Collaboration

Bilişim Vadisi can create a platform that prepares all the necessary infrastructure support in matters such as the establishment of startups, the creation of the legal infrastructure, the making of the necessary contracts.

With the infrastructure work to be done, stakeholders should be mobilized. Bilişim Vadisi should bring together entrepreneurs and institutions such as MUSIAD and TIM. In this way, it will contribute to the spread of domestic products.

Business Centers

Small groups can be helpful in the establishment of work camps and work centers. The geographical and transportation problems of Bilişim Vadisi should be eliminated. Only a small number of companies should be located in the Bilişim Vadisi, and the digital office system should be used. Monthly investor meetings should be held, and blockchain-related companies should be included in them.

Support/Approval/Audit

Firms working on cryptocurrency projects should be supported and legal infrastructures should be established. Bilişim Vadisi can develop innovative applications in this regard.

For example, Bilişim Vadisi should classify companies (informally), companies operating in the cryptocurrency sector should work on licensing, and exercises should be carried out for approval and supervision.

> **A blockchain project related to the protection of intellectual rights can be initiated in Bilişim Vadisi.**

Bilişim Vadisi can contribute to the blockchain ecosystem in the following subjects:

1. Creating a platform for information exchange,
2. Converting different knowledge, disciplines, and skills into results-oriented cooperation and concrete outputs and policies,
3. Competent leadership and direction in the exercises by people who have knowledge of the subjects,
4. Identifying the blockchain applications that Türkiye requires the most (customs offices, logistics companies/ministry of commerce, health system, etc.) and forming public partnerships,
5. Preparing a meeting platform with angel investors/organizing fairs in order to provide capital support to startups,
6. Carrying out studies to offer tax advantages to companies that provide capital support,
7. Contacting to investigate startup subcontractor models in Europe, the United States, China, and Singapore in order to prepare a report and ensure that they are included in relevant ministry policies.

Smart Cities

Information Center

An incubation center focused on the blockchain can be established. At the same time, there should be a patent office that will work with the incubation center. A system should be established to bring ideas together with angel investors. To this end, the information commercialization center can be taken as an example. Bilişim Vadisi has the potential to become the center of blockchain. There is room for improvement in this regard. It can serve as a blockchain hub for startups. Participants experience more than enough of this potential. As in smart urbanism, it would be useful to make a cluster for Blockchain and to move forward in coordination and hosting of Bilişim Vadisi. "Blockchain Service Network" was created in China and is being evaluated in 4 states. Business applications are developed using Outlook chain service network standards in collaboration with all Chinese companies. Bilişim Vadisi can also create a similar blockchain backbone, especially for smart cities projects. Blockchain standards should be established in the issuing field, and these standards should be developed. Application developers work together on the TOGG. Bilişim Vadisi and TÜBİTAK should collaborate on the establishment of backbones based on comparable standards. In this regard, international connections should be established for the ecosystem, and EU projects should be developed.

A report describing the economic and political benefits of the blockchain program should be compiled and delivered to the leaders.

Training and Awareness

Two main issues exist: First, training should be organized with the right trainers; and second, it should be connected to the solutions by using technology. Bilişim Vadisi can train people by giving the blockchain certificate training. It can organize brainstorming activities.
Collaboration between industry and universities can be arranged in this regard. The appointment of consultants in terms of ideas, academics, and markets can be organized by Bilişim Vadisi.
Municipalities should be consulted regarding smart cities, pilot studies should be conducted, and public awareness should be increased.

Private Sector

Bilişim Vadisi is expected to cooperate more with universities. It should attract the young brains, as Communication and coordination will contribute to Türkiye. Bilişim Vadisi can provide the required training by creating an ecosystem.
Industrialists can benefit from informative blockchain studies. Competent people who will mentor the start-ups should be invited. It is required to provide awareness-raising information, demonstrate the technology/application, have laboratories in Bilişim Vadisi, collaborate on joint projects, to establish a blockchain incubation center, and provide infrastructure services.

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CHAPTER 3

Theme Questions

Theme Questions - Financial Technologies

- What is the status of blockchain-based fintech applications in terms of legislation?

The legal infrastructure is not yet sufficient. There is no application, law, or definition of the blockchain in the legislation, and there are attempts underway to advance processes over general legislation. Lack of definition and lack of licensing pose serious problems. There are no direct explanations in the regulation or legislation in this field. Different laws are evaluated, and solutions are developed. The legislative preparation calendar cannot be followed as it is not publicly available. Cryptocurrency is not accepted as electronic currency. Hence, compliance studies should be initiated in the legislation. Especially for the cryptocurrency, there is a need for regulation and stock market regulations. Surviving a cryptocurrency project that cannot be bought and sold on the stock market will be extremely difficult.

To stay ahead of their competition and relevant in order to meet the ever-changing needs of their clients, businesses must adopt new technology. Legislation must also be tailored to this circumstance. Furthermore, due to the fact that restrictive and regulatory steps can be taken without careful consideration of the consequences of regulations, Türkiye will lag behind countries that are more flexible about blockchain. Legislation is thought to be more easily created as practices are developed and healthy communication with relevant public authorities is established.

- Are there any DeFi projects conducted in Türkiye? What is the most needed product in DeFi?

DeFi (Decentralized Finance) is the general name given to decentralized financial transactions consisting of the words decentralized and finance. Smart contracts, decentralized applications and consensus protocols have a prominent place in DeFi systems. They are projects created by more than one institution coming together, the general process of which can be defined with a Smart Contract.

Usually, there is no concrete good practices example of providing financial products such as loans, microcredits, and savings in a decentralized structure.

Primarily, trust must be established. Credit rating and corporate governance institutions should be established to ensure effective trust. Although there are some studies and training in Türkiye, they are still in the initial stages of development.

ITU has conducted studies in the field of DeFi. Today, studies in this field are mostly used in the swap method. Marmara Credit Loops (MCL) positions itself as a DeFi project developed to work in the real economy, operating on the Marmara Blockchain.

Regarding DeFi, it is believed that prioritizing tools and products that the real sector of the economy can benefit from, rather than gaining applications based on locking/yielding between each other on a specific platform, will contribute to the concept's widespread adoption.

Some argue that rather than asking "Should there be a DeFi project coming out of Türkiye?", the main issue that should be discussed is whether DeFi applications should be developed at all. In this case, it comes to mind that it is too early for such projects.

- Is there any cryptocurrency that is issued in Türkiye and is actively used in any environment? Should Digital Turkish Lira be issued as cryptocurrency?

Cryptocurrency Products

Bitcoin, which is actively utilized, typically comes to mind when we discuss cryptocurrencies. Bitcoin is not just a cryptocurrency, but it is also a blockchain.
Transactions are made with it. MeNaPay is a cryptocurrency with a payments system. There are other cryptocurrency projects such as BiLira, Exen coin, Avax (Avalanche) and Takasbank-BiGA.
BiLira project uses the Ava platform but is lack of Web3 integrations. BiLira is also being used in a project that will award scholarship for students.
MCL Koin has been operating for approximately a year. The issuing of the Digital Turkish Lira in a stable coin format will be beneficial. But a structure that can be used transparently and extensively should be built.
Marmara Credit Loops (MCL) are issued in Türkiye. For issuing, machines with low configuration are sufficient, no need for machines that require high resources. It is currently used, albeit in a limited capacity, on MCLMarket.

Legislation

The cryptocurrency legislation is not well-established worldwide. Türkiye may lead the field. Studies regarding legislation should be conducted. The ability to put gold in the blockchain is a world first and a significant development. The regulations regarding these should be made with the support of the Central Bank. Studies on Digital Turkish Lira can be accelerated.
Banks can issue digital currency with the condition of retention of collateral. Relevant digital currency issuing cannot be integrated into the blockchain. Regulations are posing an obstacle in this sense.
In Türkiye, all public institutions want to obtain knowledge for free. In this regard, bureaucracy should be reduced. The task at hand is to acquire knowledge from those who know it and transform it into values.

Digital Turkish Lira

If the Turkish Lira becomes digital, it may become more accessible around the globe. This could attract more investment. In these days when erosion of money is experienced, we can issue Turkish Lira and take advantage of it, by turning a crisis into an opportunity.
Central Bank should conduct studies on digital cryptocurrency. Developing a blockchain application is also important besides issuing cryptocurrency. For example, Italy is signing the overnight agreements of 26 banks through blockchain.

A Glance at the Cryptocurrency

Thanks to the interbank electronic transactions, money which has been also used in cash, has also started to be used digitally. And now, we need to switch to cryptocurrency from digital currency.
Cryptocurrency is a digital entity and a virtual element that is designed as an alternative medium of exchange to cash money and uses cryptography to secure its transactions.
For example, in the meetings China, public remained unresponsive, since they got the cash money out of their lives. There are 3 types of currency: e-currency, virtual currency, and cryptocurrency. It may sound exciting to use operational transactions as cryptocurrency.

> The **BIGA initiative**, which is integrated with the **Gold Transfer System** and is a world first, should be expanded and opened internationally.

Theme Questions - Financial Technologie

- What is the latest status of country cryptocurrencies in the world? What is the situation of Türkiye in this regard?

Chinese people have been using cryptocurrency more prevalently whereas in Türkiye, it is mostly used for investment and has not become common enough for projects.
Developed countries in the world are closer to regulation and they have been creating cryptocurrency-coherent fields.
After the pandemic, people are struggling to find bank credits due to their bad financial situations. DeFi credit mechanisms are considered as a remedy against this.
In the past, there were discussions about the future between banks and the cryptocurrency markets. Now, there are discussions about which one will survive in the future between the cryptocurrency markets and DeFi markets.
Recently, effective projects are produced in Türkiye. But it is considered that with a good budgeting and a good planning system, and with a development in environment of confidence will create better outputs.
It is known that buying and selling rates of cryptocurrency is high in Türkiye. In terms of trying/being ready, it can be said that Türkiye is ready. The interest to this field is especially increased after the pandemic.
We should create a blockchain-based project that delivers solution to problems of different countries and issue cryptocurrency. Cryptocurrency should be traded at the exchange and its value should be increased. Its contribution should be creating solutions and added value. The competition should be on a global scale.
It should be a problem-solving and a project-based solution. To exemplify, migration problem can be dealt with. If the initiative is not conceptualized, Turkish-produced cryptocurrencies will be addressed as TL values. According to the logic of investors, these could be solutions that appeal to individuals who have problems accessing financial services.

Theme Questions - Smart Cities

- Where are we in terms of legislation and technique regarding blockchain-based authentication?

Electronic Authentication System (EKDS)
Normally, there is no blockchain-based authentication. But there is authentication support granted by the EKDS code. There is a certificate in Turkish identity cards. This certificate tells us who gave us the identity card. We know that our authority in certificates is affiliated with Ministry of Interior. But there is no study regarding the use of blockchain in authentication.
Necessary regulations and standards to use the identity certificate given by the Ministry of Interior Affairs should be determined. It is necessary to collaborate with workgroups constituting the legislation. In TUBITAK, a blockchain-based authentication infrastructure that companies will be able to use in API level is being prepared.

Personal Data Protection Law in Türkiye (PDPL)
KVKK applications are not in line with practices and leave the ones providing point services in a difficult situation, and there is information pollution regarding the PDPL practices.

Infrastructure Incompatibility with Legislation
Since there is not enough practice, solutions should be taken from abroad. This creates the obligation to grow apart from domestic legislation.
Despite being in a good technological situation, we are not at the desired level in terms of blockchain. Legislative innovations can be made regarding this topic.
Studies conducted through e-government system is restricted by Information and Communication Technologies Authority (BTK). These restrictions should be studied, and different infrastructures should be provided.

- What kinds of blockchain applications can be developed in public services?

Practicability in All Public Services
Healthcare management, healthcare information and e-nabiz system should be included in blockchain practices. Including e-passport system, insurance, and banking fintech subjects will be beneficial.
Within this scope, practices that will allow us to review the processes in the trade, logistics, and production of products from beginning to the end can be made.
In energy sector, blockchain and energy market studies can be accelerated.
All processes from customs transactions to title deed transactions (by adhering to trust relationships and monitorability of transfer) should be carried out with blockchain. Thus, the notary concept can leave our lives.

Velocity
Most of the new subscriptions can become blockchain-based. Municipal services, natural gas, and water subscriptions etc., can be transformed into blockchain infrastructure. The speed of the blockchain platform is very important in this transformation. In fact, private blockchain platforms are working fast enough. Authentication problems can be solved, and subscription systems can be transferred to blockchain platforms.

Transparency
Public institutions should be transparent. Particularly political subjects should be made transparent Blockchain applications can be used in terms of the reliability of open data sharing. Applications in terms of proving the allowance and services should be developed.
Blockchain applications can be built in terms of categorizing or tiering information, disambiguating it, and sharing it with authorities.
Integration between institutions can be preserved using blockchain technology.

- What kind of blockchain applications can be developed in smart urbanism? Are there any products in the world and in Türkiye?

Examples from Türkiye and the World
There are some examples from the world. There are smart transportation examples: In some countries, e-ticket is used. Carpooling startups can be evaluated. Carpooling applications such as Uber, Rightcoini, Arcadecity are the greatest examples.
There are advertisement studies. An open screen is established, and advertisements are shared. This could be a good example to smart cities.

Developable Good Practices Examples
It is considered that blockchain is particularly important in terms of solving the problem caused by failing the system at one point in the design of smart cities with a single point of failure (SPOF). SPOF's are maladies in systems with the aim of high utility and reliability such as business practices, software applications and other industrial systems.
It is considered that smart city applications which combine big data and artificial intelligence include dangers like this and blockchain can be an antidote. Using blockchain in eliminating the handicap caused by a single point of failure is indispensable.

Areas in a smart city where blockchain can be used:

1.Blockchain can be used to net the cost of the energy utilized by individually installed energy production systems (e.g., rooftop solar panels).
2.Hybrid network architecture should be made in terms of blockchain. Wi-Fi
systems need to be in communication with each other.
3.Blockchain can be used in sharing healthcare data and statistics and the verification of these.
4.If hospital information system (HBS) infrastructure is made with blockchain, faster, more reliable, and more coherent results can be obtained.
5. Blockchain infrastructure may assist in sustaining the real estate agent+insurance+title deed+municipal association in the commercialization of real estate in cities.
6.Blockchain can be used in taxation and to
make city life more practical. Providing the communication of the systems is necessary.
7.Blockchain can be used in monitoring and managing the agricultural lands and the agriproducts will be planted.
8.Blockchain can be used in earthquake management mechanisms.

- Can Blockchain Technologies be used to solve the "single point of failure" problem of the Artificial Intelligence Supported Smart City Projects? How?

Machine-learning algorithms are adequate for this solution. The Internet of Things (IoT) technology can be defined as the communication of smart devices. Too much data will be constituted with IoT technology. Here, Blockchain can be used as a solution.

By integrating with cloud technology, blockchain technologies can create solutions. Public should play an active role as the receiver of the domestic and national solutions.

Bilişim Vadisi should provide support in fulfilling the need of domestic and national solutions There is a need for incentive-based regulations on native cloud technologies where native blockchain applications can operate. These incentives need to be both regulative and economical. Also, regulations that will improve quality will also be beneficial.

A blockchain architecture that will ensure the inclusion of all stakeholders on the subject determined in the solutions should be established.

The constitution of central spine should not be expected. Blockchain may create a technology that municipalities and institutions can adapt to central spine to be constituted. Institutions may struggle in making the infrastructural investment. Different modules should be planned in collaboration with each other to create applications. Common sense and cooperation should be ensured.

Theme Questions - Private Sector

- Is there sufficient awareness about the blockchain technology potential?

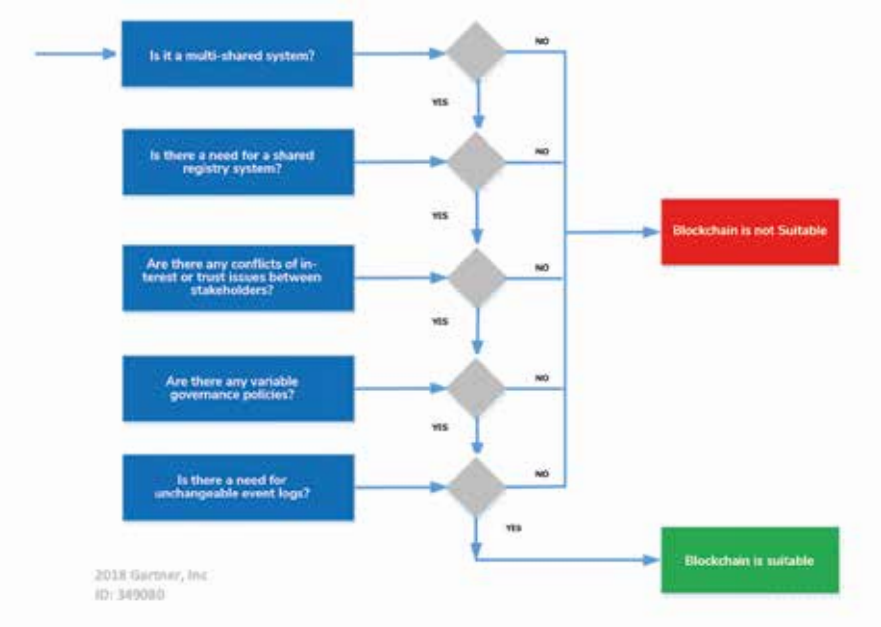
There is not adequate awareness about the blockchain technology potential. There is a problem with the lack of awareness and knowledge. Therefore, it is quite necessary to organize trainings.

The blockchain technology should continue to be the subject of workshops and studies should be conducted in universities.

Due to people's limited grasp of blockchain, Bitcoin and other cryptocurrencies are more popular than blockchain technology. Therefore, the emphasis must shift from Bitcoin to blockchain technology.

- Is there a need for a "Should I have the blockchain app?" question set or a set of criteria to help answer these questions? If so, what should be included?

If you need to keep user data flowing, you should use blockchain. Blockchain is also required to meet the need for trust in this age of accelerated communication.



Blockchain is not Suitable:

- Central databases
- The database is not shared / is shared among trusted stakeholders
- Data remains confidential

Blockchain is Suitable:

- Multi-party post shared database
- No trust between stakeholders, No trusted third party
- Fault tolerance, data cannot be changed without reconciliation
- Access cannot be arbitrarily blocked

- Are there any good practices in supplier management and logistics? What are the primary solutions required?

In supply management, the desire of companies to work with more institutional structures should be resolved, as should the situation of trust relations between them. While the solutions of IBM are advantageous in this regard, there are few examples of success.

Bilişim Vadisi **Blockchain** e-Workshop Conclusion

In conclusion, while blockchain technology is a promising technology, there are still steps that must be taken before this technology can be considered fully mature. This is exactly what the participants wanted to convey. Participants stated that blockchain technology should be remembered for more than just digital currency, but also for fintech, e-commerce, stock market, e-notary, e-government, cloud computing, and secure cloud storage. Blockchain start-ups should be supported, technology providers should be brought together on joint platforms, and investors should be reached with accurate information through experts in this field.

It is critical to establish a cluster under the auspices of Bilişim Vadisi in order to transform our country into a technology developer that produces blockchain-based products and sells them in domestic and international markets.

According to the workshop results, there is a consensus that blockchain legal infrastructure is lacking. The proper establishment of the legal infrastructure and developments, as well as the support/incentive mechanisms that will be implemented, will significantly contribute to the advancement of blockchain.

However, the lack of knowledge of the blockchain subject may cause investors to approach it with doubt. To prevent this, training and workshops should continue to be coordinated by Bilişim Vadisi. The young population in Türkiye can be considered as our strength for Blockchain projects. With the assistance of state universities, young people who get a quality education may meet the demand for qualified workers in the blockchain industry.

Smart cities should be built with blockchain technology in terms of speed, transparency, and accessibility, in accordance with legislation and infrastructure, and used in all public services. In this regard, the private sector should change its perspective and recognize the applications of this technology and how they will shape our future.

In this regard, it is critical for public and private sector professionals, as well as academic researchers, to discuss the potential applications of blockchain, its development, and its implications for our future at the upcoming workshops. As a result, we will be able to contribute to the development of necessary strategies for Türkiye to achieve our goals regarding blockchain technology in the future, as well as produce new technologies that will challenge the leading countries in this field.

2020 BLOCK-CHAIN e-Workshop

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