



# Sharia Cooperative Institutional Development: The Block Chain Approach (Case Study in Bulak, Surabaya City)

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A community-based institutional building of syariah cooperatives requires information and communication technology. This has led to a block chain approach that benefit from the industrial revolution 4.0. The institutional concept that was developed 60 years ago by JE. Eaton (1972) is very relevant in this context. In this study, we employ a qualitative method with descriptive research. Our findings shows that community response to knowledge and awareness for adopting syariah cooperative is satisfactorily good as indicated by the establishment of a syariah pra-cooperative named "Nurus Shobah" in 2019. The output performance is effective : the number of members increased up to 34%, while the quality of sirkah is 98%. Hampering factors are delayed adoption of block chain approach due to lack of exposition to members, underperforming of software, and administration is still manually carried out. A supportive factor exists in which functionally, the cooperative has been partnering with neighbouring university through a supervision program. We therefore conclude that the institutional building of syariah cooperative in Bulak, Surabaya has not been fully implemented. A block chain approach is to be soon adopted to support the cooperative.

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Pembangunan kelembagaan koperasi syariah berbasis masyarakat membutuhkan teknologi informasi dan komunikasi. Ini telah mengarah pada pendekatan block chain yang mendapat manfaat dari revolusi industri 4.0. Konsep kelembagaan yang dikembangkan 60 tahun yang lalu oleh JE. Eaton (1972) sangat relevan dalam konteks ini. Dalam penelitian ini, kami menggunakan metode kualitatif dengan tipe deskriptif. Temuan kami menunjukkan bahwa respons masyarakat terhadap pengetahuan dan kesadaran untuk mengadopsi koperasi syariah cukup baik seperti yang ditunjukkan oleh pembentukan pra-koperasi syariah bernama "Nurus Shobah" pada tahun 2019. Kinerja output efektif: jumlah anggota meningkat hingga 34 %, sedangkan kualitas sirkah adalah 98%. Faktor-faktor penghambat adalah keterlambatan adopsi pendekatan block chain karena kurangnya sosialisasi kepada anggota, kinerja software yang kurang, dan administrasi masih dilakukan secara manual. Ada faktor pendukung di mana secara fungsional, koperasi telah bermitra dengan universitas sekitar melalui program pengawasan. Oleh karena itu kami menyimpulkan bahwa pembangunan kelembagaan koperasi syariah di

Bulak, Surabaya belum sepenuhnya dilaksanakan. Pendekatan block chain akan segera diadopsi untuk mendukung koperasi.

**Keywords:** Institution, Sharia Cooperative, Block Chain

## INTRODUCTION

In the context of development, this poverty occurs, one of which is caused by development patterns that oriented in development and is not balanced by equity. The growth development model requires industrialization in all sectors. This is marked by per capita income, ever-increasing growth, inflation, the financial system and debt. The development model that refers to growth does not favor coastal communities or fishermen. To that end, efforts to move the economic potential of coastal communities are done through a community approach. This approach requires an efficient, effective, easy and safe institution through the implementation of the industrial revolution 4.0, namely the block chain. Block chain is an innovation in the development of Islamic cooperative institutions in coastal communities (women fishermen) requiring institutions to raise funds, and large data is needed in developing their businesses.

According to Nih Aldaikey, Ahmad, and Haron (2016), Legitimate oversight in Islamic Banks. The legitimate oversight generally: "Committee and the committee of personal affairs". In Indonesia oversight in Islamic Banks or Cooperstion Sharia known as board of controller (Dewan Pengawas), UMKM of Islamic banking reached 84.28% and non-MSME reached 15.72%. Total sharia financing in East Java alone reached 20.99 trillion rupiah with 481,994 accounts with an average financing of 43.5 million per account. On 21 October 2016 the East Java provincial government issued Decree No. 188/60. Based on the description above, the problems in this study can be formulated as follows:

1. How is the Institutional Development of Sharia Cooperatives: a Block Chain Approach (Case Study in Sukolilo Baru Village, Bulak District, Surabaya City)?
2. What are factors that impede and support the Development of Sharia Cooperative Institutions: Block Chain Approach (Case Study in Sukolilo Baru Village, Bulak District, Surabaya City)?

## Institutional Theory and Community Empowerment (Block Chain)

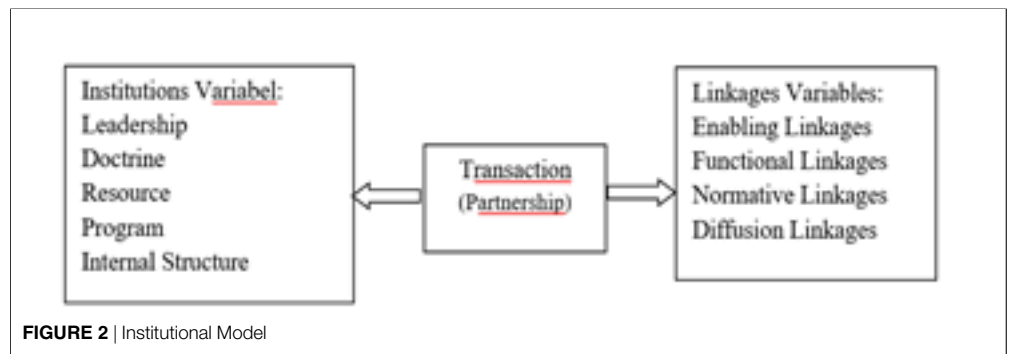
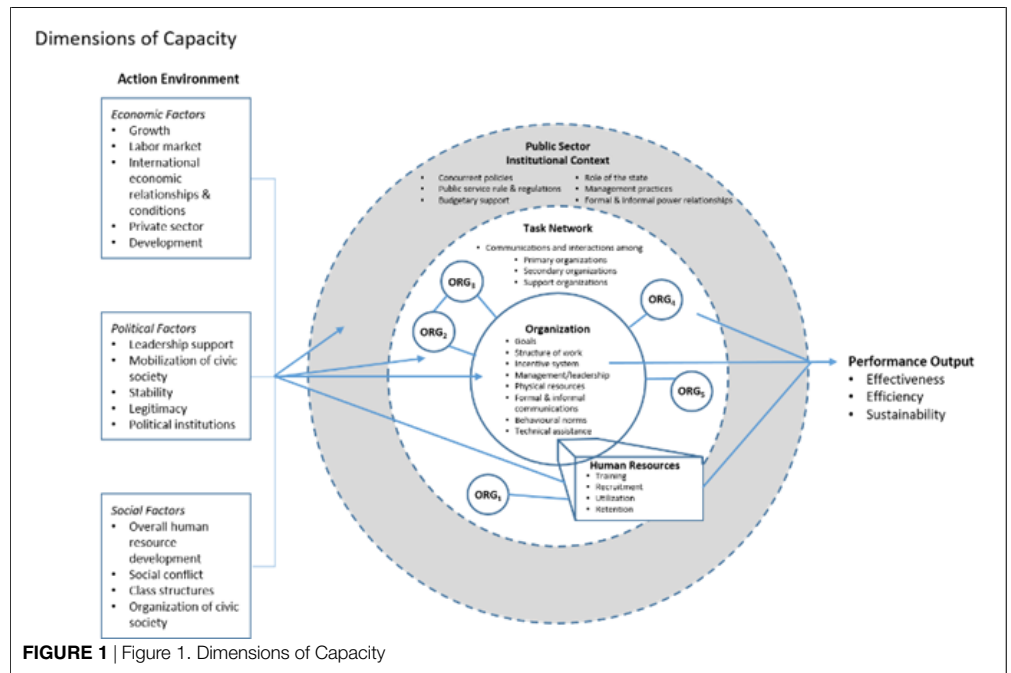
### 1. Capacity Building

According to Zaltman, Duncan & Holbek (1973), Masroro Lilik Ekowanti (2017) capacity building through the innovation process involves two stages ie the initiation and the implementation. The initiation stage consists of: 1). step knowledge and awareness, 2). The steps in forming attitudes towards innovation are characterized by: the willingness of members to get involved in the organization, to question innovation about institutions, to feel that institutions are innovations. Likewise, stated by Merilee S. Grindle (1997) about the dimensions of capacity, as shown in the following figure 1.

As can be seen in Figure 1 the dimensions of capacity that affect institutions, namely the dimensions of environmental action include: economic factors include: growth, labor markets, the international economy, relations and conditions, the private sector and development. Political factors include: leadership support, mobilization of civil society, stabilization, legitimacy and political institutions. Social factors include: overall development of human resources, social conflict, class structure, and civil society organizations. The capacity dimension is the interaction and dynamics of a series of actions from the environment including: the average and structure of economic growth, the level of stability affecting the capacity of the public sector for a long time producing results.

### 2. Institutional Concept

Institution referred to in the concept of Joseph W. Eaton (1972) is the development of institutions, including institutional variables and linkages variables. Both of these variables carry out transactions as shown in the Figure 2 below:



Grindle said that public sector institutions are influenced by environmental action both internal and external to the organization including: rules and procedures for government operations and public officials, government financial resources that lead to activities, government responsibilities in building initiatives, policies and formal structures and how the influence informal structure in the functioning of the public sector. Both are driving and inhibiting factors of performance because they affect organizational output. The fifth dimension of capacity focuses on managerial, professional, and technical through training and mentoring. The value is instilled in institutions by adopting Industry 4.0 technology (Block Chain) as a big data analysis tool with a 6 c system, namely: connection, cyber, content / context, community and customization. Data is processed with sophisticated tools (analytics and algorithms) to produce logical information. The information creation algorithm must be able to detect invisible problems such as engine degradation and component thirst.

The Ministry of Industry’s policy created a roadmap titled Making Indonesia 4.0. consists of: (1). Formulation of fiscal incentives in the form of suer deductible tax on innovation and R&D activities and vocational education and training. (2). Spawning e Smart IKM programs utilizing e-commerce through the marketplace to expand the market, (3). Give large companies to pilot the application of industrial technology 4.0, (4). Conduct training to produce managers and industry transformation experts.

## Sharia Cooperative Institutions and Indonesian Government IR

### 4.0 Policy

Based on the above policy, the Islamic Cooperative Institution allows to use the Block Chain.

#### 1. Strategy Approach

As the majority of members of the community still upholds ancestral values and norms, it is necessary to carry out community empowerment strategies through the values of local wisdom. According to Eaton (1972), community-based sharia-based cooperative institutions as well as instilling new values (sharia), values as doctrines in problem solving, through the initiation of knowledge and awareness and perception to the community in trade, as well as compiling programs with a Block Chain, namely digital transaction records based on the structure, where individual records called blocks are linked together in a list called chains. Block Chains are used to record transactions made with cryptocurrency, such as: Dinar and Dirham and have many other applications (Zarra, 2004)

#### 2. How Does Block Chain Technology Work. (Siddiqui, 2018)

Every transaction that is carried out peer to peer from one party to another will be distributed to all nodes in the network and then the data will be authenticated and verified as valid by other nodes connected in the network. Data distributed in transactions is stored in a block that has a private key and a public key. Both are encrypted by Cryptography which is the digital identity and ownership of the data.

The combination of encrypted private key and public is a digital identity of ownership of data. Each transaction in the network will form new ownership blocks that are authenticated and authorized by other nodes in the network, so that a series of transactions will be recorded in that network. Melanie Swan said "I think a decentralized network will be the next biggest technological wave". Therefore, the block chain helps in the collection and management of big data that is not possible manually. Likewise, trading requires cashless (non-cash) transactions, so as to facilitate, speed up and be safer in the transaction process.

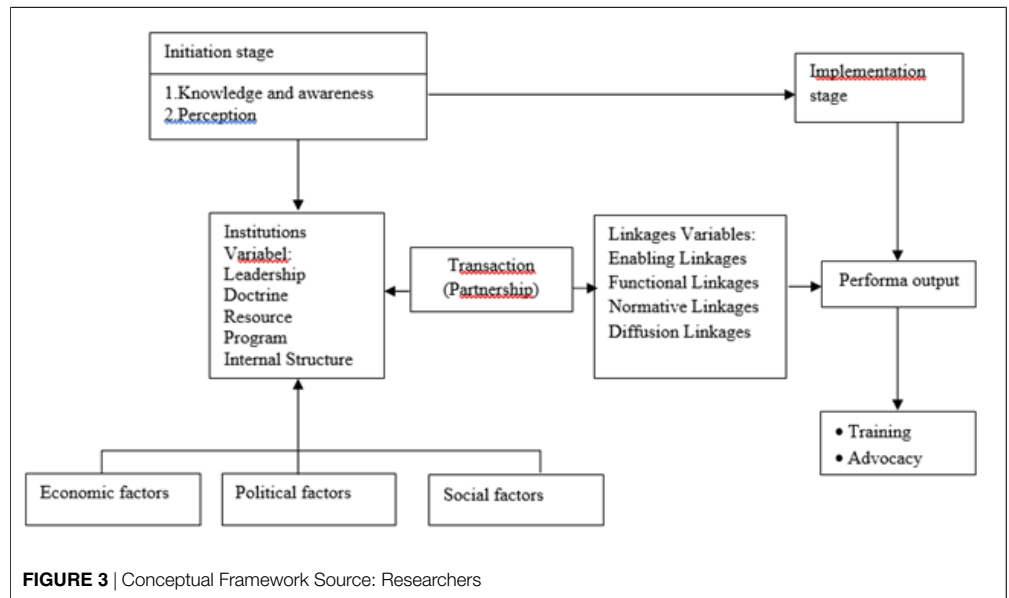


FIGURE 3 | Conceptual Framework Source: Researchers

### Block Chain-based Institutional Output Performance

Block Chain technology is a sequential distributed data based where the entire early transaction history is stored and shared in a (block) in a public ledger (Van Alstyne M in Yuho Lindman, Matti Rossi, and Virpi Kristii Tuunainen ,2017). So, block chain can be seen as one such platform both as a technical and as an economic innovation. As a technical innovation, it is a new

version of data base transaction technology especially for decentralized environments of limited or imperfect trust. The principle works in a decentralized network to open autonomy independently to develop local potential autonomously. Patterns of relations with the center tend to be hierarchical and authoritarian, sociologically patron-client, then using technology 4.0 (block chain) is more flexible and partnered or partnership

## RESEARCH METHOD

We adopt a type of descriptive-qualitative research that seeks to describe facts or facts as they contain meaning of a description of the data using words and sentence lines (Creswell, 2013).. Research Focus: Identifying the potential for institutional development capacity of Islamic cooperatives including: leadership, doctrine that is built, the program owned, resources owned and organizational structure that will be developed, Identifying transactions or institutional partnerships with links (circles), Analyzing the influence of inhibiting factors and supporting development institutional, analyze performance or institutional performance.

## RESULT AND DISCUSSION

### External factors that affect institutional success or failure

- Economic factors,

Government policies in the economy through the development of community economic institutions, such as the success, the establishment of the Sekar Dewi Cooperative as a legal entity: No. 222 / BH / XV1 .37 / 2010, a conventional cooperative, established in Sukolilo Baru Subdistrict, Bulak District, Surabaya City received funds from the Government of East Java Province in the amount of Rp. 25 Million. This cooperative has been running until now with a capital of Rp. 100 million and the number of members as many as 92 people, this cooperative is encouraged to become Sharia.

- Political Factors

Support for leadership and formal legitimacy both by local level government officials such as: Village Office and Sub-District who should provide bottom up policy support to authorized officials at the regional head level. Meanwhile, the Surabaya City Government has not made a policy breakthrough focusing on providing capital to MSMEs and cooperatives, so that the fishermen women's economy has not gone as expected. Thus, it can be concluded that the good will of the City Government of Surabaya has not been as expected by coastal communities in PAMURBAYA.

- Social Factors

Coastal communities, especially women fishermen are closely connected with religious life, such as: Yasinan which is held every Thursday, requires economic institutions that support religious values (sharia). Community cultural factors are supported by Higher Education, through mentoring, the success of resources such as: the ethos of hard work. This fisherman woman in Sukolilo Baru, has a leader who has a hard work ethic, has sufficient knowledge about the institution, is able to lead with discipline, honest and responsible is a social modality that can be used as a leadership model for several regions that will develop sharia cooperatives. Public expectations can be measured through knowledge and perceptions about institutions including regulations or normatives that are related, scattered, functional that have the same functions as titil banks, and conventional banking. Women's fishing unity, and joint commitment to improve the family economy will greatly determine the welfare of the local community.

### Initiation Stage

In this initiation the role of institutions such as: leadership, doctrine, work programs and internal structures are important. The dominant leadership factor influences the success of institu-

tions in the implementation of sharia-based cooperatives, namely: first, the internal motivation of leadership includes: (a). Intelligence quotient, namely: the ability to organize, the skills in completing the main tasks of the function in cooperatives, the ability to translate and perceive cooperative regulations at the level of implementation largely determines cooperative management. (b). Spiritual Quotient: leadership that has a good spiritual, that is: honesty, discipline and responsibility. The failure of women's cooperatives in general is caused by: 1). This weak spiritual quotient, cooperative funds are still mixed with private funds, 2). Not competent in assisting members (c). Emotional Quotient, namely: cooperative leadership that is successful continuously and fully dedicated to developing cooperatives by maintaining the number of memberships, developing types of businesses other than savings and loans, such as: provision of basic food, fishing equipment and others. second, Doctrine: leadership has the doctrine for the institution it leads to such as: honesty, discipline and responsibility, then the three work programs: in quantity increasing the number of members and the quality of the application of sharia values in business through profit sharing, and fourth, the internal structure is carried out by leadership flexibly, as stated by Ahmed, MA, Arshad, A (2016) in the Spiritual Intelligence (SQ) : A Holistic Framework for Human Resources Development.

- Transactions (Partnership)

The research findings shows that institutionally the transaction or partnership conducted by the Dewi Sekar Cooperative did not occur, in contrast to the Mother of SMEs who are in Cupat, Bulak District (Lilik Ekowanti, 2014) able to partner with third parties. The success of the Dewi Sekar Cooperative maintains the institution but does not yet have a partner, so that through this cooperative assistance can be better directed. (1). Enabling linkages: is the application of sharia values in institutions (cooperatives). The results showed that it was quite good in implementation. (2). Normative Relation, is a regulation on the establishment of Sharia Cooperatives in Sukolilo Baru demonstrating the commitment of all members in accordance with sharia regulations, encouraging the public to be better at doing business. (3). Functional links, are activities that have the same goals, such as Islamic cooperative institutions providing loans with a profit sharing pattern, which is calculated every day the benefits obtained by members in doing business. Meanwhile, institutions that have the same function, such as conventional cooperatives, banks, Titil banks use the interest pattern, with the mechanism of maintaining assets. (3). Scattered Linkages, the value of Islamic institutions for cooperative institutions is still limited, because what is known to the community is the pattern or system of interest, so it is necessary for the Higher Education to continue instilling sharia values for cooperative institutions.

## Implementation Stage

### Sharia Cooperative Output Performance.

Pre-Cooperative Assistance carried out by Center for Women's Studies or Pusat Studi Wanita (PSW) for 6 months quantitatively has shown quite good results seen from the recruitment of the number of members increased from 123 people to 171 people there was an increase of 34%, while qualitatively that is the implementation of the production sharing circuit running 98%, from 171 members, there are 3 members who do not fulfill the profit sharing. This performance is largely determined by the 3 leadership motivations above, instilling the value of doctrines: halal Islamic cooperatives for Muslims, and the work programs that have been carried out by the chairman are: (1). Provide awareness to members about the importance of honesty in business, (2). Assistance activities as a recommendation from the research are to conduct monitoring and evaluation for the next 3 to 6 months to assess the significance of the planting of sharia values and their consistency, (3). The capacity of women fishermen tends to be good, only requiring institutional assistance, funding grant programs, licensed training, packaging, marketing, procurement of raw materials, distribution chains and others.

## Sharia Cooperative Institution and Anticipation of Industry Impact 4.0 of 2025.

The existence of Sharia Cooperatives in Surabaya



The number of Islamic cooperatives in East Java reached 2,308 cooperatives, up to 600 cooperatives in 2006 and already incorporated (Wicaksono, 2019). In 2019 all Islamic cooperatives received a program of Rp. 25 million and the majority is used for the establishment of legal entities. Forms of Islamic cooperatives in East Java: Islamic women's cooperatives, Islamic finance savings and loan cooperatives, increased business capital, rent and others.

Head of Regional OJK IV East Java, Sukamto, explained that the Ummah Action Program aims to increase the independence of the people in the field of Islamic finance based on the mosque. able to increase the role of zakat institutions, donations, alms and endowments (Lazizwah). This program involves academics, scholars and practitioners in spiritual accompaniment and business capacity building. The implementation of the Governor's decision is supported by six pilot mosques, six Islamic schools, five universities, two Islamic banks, and four state institutions or associations. The development of Islamic cooperatives in Surabaya such as 212 Mart in Manukan, in Kutisari 77, KJKS Pilar Mandiri, Syariah Muamalah Blessing Cooperative in Cipta Manunggal, Al Muhajirin Siwalan Kerto Sejahtera Cooperative and others.

1. Relevance of the Industrial Revolution 4.0 (Block Chain) and Sharia Cooperative Institutions, The Islamic cooperative institution in Sukolilo Baru has 168 members who can be recorded as a large data potential, because the development of cooperative data is still possible more, so the use of technology will greatly help facilitate, speed up and secure decision-making. In addition, the effectiveness of the use of block chains can be carried out by users in the initiation stage through partnerships between tertiary institutions, server providers and cooperatives.

## CONCLUSION

Conclusion: (1). That the Sharia Cooperative to be established in Sukolilo Baru Sub-District of Bulak institutionally based on the initiation and implementation stages shows a fairly good trend, (2). Dominant supporting factors 1). Leadership factors have: intellectual, emotional and spiritual motivation, visionary, have values: honest, disciplined and responsible which are used as the doctrine of the institution, composing sharia-based cooperative programs, 2). The use of Block Chain as a means of developing cooperative businesses through partnerships with third parties, universities through training and assistance.

Suggestions: (1). The use of the block chain approach in Islamic cooperatives is supported by the Ministry of Trade's policy in collecting funds and processing big data. (2). Training and mentoring are important in the application of the block chain approach.

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**Conflict of Interest Statement:** The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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