**Section 4: Setting The Stage**

**Consortiums and Blockchain Networks**

**This will cover:**

1. **an overview of what a consortium, and**
2. **how decisions are made in a decentralized blockchain network that is driven by the consortium members.**

**Consortium:**

Consortium is defined as an association of two or more individuals, companies, organization or governmentwith the objective of achieving a common goal.

**two types of consortiums:**

1. The **Industry consortium** is a consortium in which the members are from the same industry.These consortiums are also known as the business consortiums or the consortia.
2. **Technology Consortium:**The technology consortiums are focused on the technology.

**For example**, W3C is a consortium for Internet technologies and standards.Hyperledger and Enterprise Ethereum Alliance are consortiums which are focused on distributed ledger technologies or the blockchain technologies.

Typically**, blockchain business networks are driven by industry consortiums**.

In the case of Acme Airline, there may be a industry consortium formed by the airline companies, but a key point to note about such consortiums is that the members are just not the airline companies.

But it may be some regulatory agencies such as FAA and even the aircraft manufacturers such as Boeing and Airbus.

focus in this repository is on Industry Consortium, and I'll give you a **quick example** of the industry Consortium.

R3 is an **industry consortium** for the financial industry, and B3 is an industry consortium for the insurance companies.

I suggest that you visit their websites to get a better feel of what their common goals are.

These are the typical benefits of a consortium

* standardization,
* collaboration and
* efficiency.

From the blockchain perspective, we can think of the consortium as launching a common network for the participants, which means there will be a common set of ledgers for the members, and the processes may be standardized by way of chain codes.

Members of the consortium make many decisions and these decisions may fall in two categories

* rules and
* regulations.

**some examples of rules and regulation:**

There will be some rules around the addition and removal of members in the consortium, for example, access and authorization policies.

Which member can do what?

And then there may be decisions related to the technology, for example, which blockchain technology to adopt or how the blockchain will be configured.

Another question that we need to answer here is who can make the changes to a blockchain network which is owned by multiple members of the consortium?

The answer can be it can be centralized.

For example, the founding members can retain the authority to make changes to the blockchain network,

or they may create a dedicated organization who is in control of making the changes.

Another way to deal with this is by way of decentralized mechanism, which involves consensus based

changes.

For example, majority of organizations must agree to the change, but this can cause bottleneck when

it comes to making org level changes in that case, some of the changes, such as org level changes,

may be left to the organization's admin as those changes are not going to impact all of the members

in the network.

Typically, consortiums use a decentralized mechanism for these kind of decision making.

Changes are consensus driven, so we are moving away from that single administrator taking care of all

the changes to a consensus driven model where the administrators from multiple organizations are involved

to make a decision on any change that impacts all the members of the network.

And once you have such processes, you need governance and you need decision making models that need

to be supported by the technology which you are using for your blockchain network.

Hyperledger Fabric Technology supports decentralized administration by way of policies.

Policies are created by the members of the consortium, and these policies enforce the rules for changes.

What changes can be made?

Who can make those changes, and how those changes are made to the network.

All of these are governed by policies.

Let's summarize in this lecture I talked about Consortium three key points about consortiums.

Consortiums are formed by legally separate entities and they form the basis for the blockchain networks.

Since there is no central authority that can make decisions in a consortium, the decisions are consensus

driven.

These consensus driven decisions are supported by the Hyperledger Fabric technology by way of policies.

**Case Study: The Airlines Industry Consortium**