عنوان مقاله:

A Framework for Cost-benefit Service providing in the Cloud Manufacturing (CSCM), as a basis for Blockchain-based Smart Contract using Axiomatic Design

محل انتشار:

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خلاصه مقاله:

As an important subject in the Ubiquitous Manufacturing and a paradigm of Industry 4.0, Cloud Manufacturing plays an important role in the global economy. The industrial sector consumes 37% of the world s energy and manufacturing is accounted for the consumption of a large proportion of the energy. In the Cloud Manufacturing System, any manufacturing s capabilities consider as the Manufacturing Cloud Service (MCS). The consumer s needs satisfied by the manufacturers as the MCS providers in the cooperative environment. The MCS providers cooperating to develop the composite service for satisfying the consumer s needs as well as the Quality of Service (QoS). The service cost as an important factor of the QoS decreased by the formal cooperation between MCS providers. In the real world, there are many MCS providers in the Cloud Manufacturing System. So, traditional contract management between MCS providers isn t efficient and sometimes impossible. The Blockchain-based Smart Contract facilitates the formal cooperation between the MCS Providers in the Cloud Manufacturing System. This research, developing the framework for Cost-benefit Service providing in the Cloud Manufacturing (CSCM), using Axiomatic Design (AD). The framework is proposed as a basis for the Blockchain-based Smart contract in the Cloud Manufacturing System. The developed framework satisfies CSCM’s measures by using well-known tools called AD. Also, the framework validation .is tested by the independent axiom according to the AD s rules

کلمات کلیدی:

Cloud Manufacturing, Manufacturing Cloud Service Composition, Blockchain-based Smart Contract, Axiomatic Design