Contract as Automaton: The Computational Representation of Financial Agreements

The fundamental legal structure of a well written financial contract follows a state-transition logic that can be formalized mathematically as a finite-state machine (a.k.a. finite-state automaton), write Mark D. Flood and Oliver R. Goodenough.

The automaton defines the states that a financial relationship can be in, such as “default,” “delinquency,” “performing,” etc., and it defines an alphabet of events that can trigger state transitions, such as “payment arrives,” “due date passes,” etc. The core of a contract thus describes the rules according to which different sequences of event arrivals trigger particular sequences of state transitions in the relationship between the counterparties.

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