Table 1 Overview of the main characteristics of various types of blockchains

Degree of centralization	Public		Consortium		Private
Management	No centralized management		Multiple organizations		Single entity
Access	**Permissionless**	**Permissioned**	**Permissioned**	**Permissionless**	**Permissioned**
	Open read/open validation of transactions	Open read/permissioned validation of transactions	Permissioned OR open read/permissioned validation of transactions	Open read/open validation of transactions	Permissioned read/ validation of transactions
Participants	Anonymous/ pseudonymous	Anonymous/ pseudonymous	Identified	Usually identified	Identified
Validation based on consensus protocol	Open to every participant in the network	Open to every participant in the network, subject to certain conditions	By pre-approved participants (across the organizations involved)	Depending on the consensus protocol chosen for the platform	By pre-approved participants (within the single entity)
Speed of validation	Slow	Quicker	Quick	Quick	Quick
Users' level of privacy	None	None	Tailored to the needs of participants	Tailored to the needs of participants	Tailored to the needs of participants
Computing power required (energy consumption)	High (but variable depending on the consensus mechanism)	Intermediate. Variable depending on the consensus mechanism	Lower	Lower	Lower
Transaction fees	Yes	Yes	Optional – depending on the rules of the blockchain	Optional – depending on the rules of the blockchain	Optional – depending on the rules of the blockchain
Scalability	Low	Slightly higher	Higher	Higher	Higher
Example(s)	Proof of Work (Bitcoin, Ethereum)	Proof of Stake (Nxt)	Blockchains built on Hyperledger Fabric. Permissioned blockchains built on Ethereum.	FastTrackTrade	Private blockchains built on Ethereum

Source: Author.