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## **X-Accounting ® - Towards a new Accounting System. Blockchain applied accounting. How robots will overcome humans in accounting Recording.**

### **AUTHOR**

Dr. Alessio Faccia  
*Lecturer in Accounting - Coventry University*

### **ABSTRACT**

In T-accounts it is possible to identify:

- the name of the account at the top (headings);
- “Debit” (Asset / Expenses) in the left section; and
- “Credit” (Equity / Liabilities / Revenue) in the right section.

In X-accounts, in addition to the previously mentioned elements, a list of hashes must be enclosed at the bottom.

Hashes identify the blocks of the shared blockchain. Each hash is then linked to the transactions disclosed in Debit and / or Credit of the same account.

3rd AXIS ADDED TO T-ACCOUNTS

3rd (SHARED) LEDGER ENHANCED

The main components of the accounting blockchain are the same of any other blockchain system.

Any stakeholder can be identified as a node, and should be granted of specific authorisations, in relation to the transaction in which he is involved.

So that, for example, in a purchase, buyer (i.e. retailer) and seller (i.e. factory) are the only two users authorized to approve a transaction in the shared ledger, while in a payment four users are involved: payer (buyer), receiver (seller), payer's bank (A), receiver's bank (B).

FIRST TRANSACTION – Purchase of goods

In the case of the purchase of goods, there are two players (users) involved in the transaction, the buyer (retailer) and the seller (factory).

The buyer records the purchase as expense (in debit) and payables (in credit) for the transaction amount (in this case \$1,000), while the seller records the same amount as receivables (in credit) and revenue (in debit).

In addition to recording the corresponding transactions in their ledgers, they will have to access the blockchain system to mutually confirm the accuracy of the transaction. As soon as both parties confirm this transaction, the system will include it in a unique block by automatically (through a customized algorithm) assigning a unique hash code (in this case, we imagine “0123a456”).

This hash code must then be reported in the lower section of the X-accounts of both parties and linked to their respective transactions (using sequential chronological order [1]).

The process of VALIDATION of the transaction could be performed through the use of smart-cards or smart-tokens, third generation chip-based identity documents that are produced according to international standards ISO 7816 and high security requirements in terms of protection and authentication. One or more people, in a specific department, possibly different from the accounting department (but with accounting skills) to ensure greater control, may be delegated by the management to approve all transactions with their smart card or token, adequately protected by PIN code, whose the only owner will know the sequence, or enabled with the use of fingerprints.

SECOND TRANSACTION – Payment

When the payment of the invoice occurs, two additional users are also involved, the bank (Bank A) where the buyer has opened his bank account and the bank (Bank B) where the seller has opened his bank account.

In this case the transaction in the distributed ledger must be confirmed by all four users: buyer, seller, Bank A and Bank B.

Only once approved by all the four users, confirming the amount paid (\$ 200) another new unique hash (in this case, we imagine “7890b123”) will be linked to another block to be included in the respective X-accounts of all 4 users.

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We can further imagine that for any reason (negligence, delay, acknowledgment of errors by one of the parties) a transaction is not confirmed in the shared ledger.

This does not even stop the regular bookkeeping of transactions, which can be normally carried on as a double entry instead of a triple entry, but will offer auditors a specific alert, greatly reducing the control field, increasing the effectiveness of the control itself.

Automatic queries can also be set up and launched to verify the accuracy of the registrations by comparing all the hashes recorded in the company's accounts with those present in the shared ledger. Bank reconciliation would also be entirely automated.

is this an UTOPIA? NO! It is the VISION of the impact of application of all available relevant technologies on the accounting process.

MAIN ADVANTAGES:

- RELIABLE AND FASTER AUDITING PROCESS
- TRANSPARENCY
- FRAUD PREVENTION AND DETECTION
- MASSIVE REDUCTION OF TAX AVOIDANCE

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