

Method Overview

Proven, Reliable, Standards-based Best Practice Method for Automating Accounting, Reporting, Auditing, and Analysis Tasks and Processes

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Automation is about removing friction, driving costs down, speeding processes up, and improving efficiency and productivity. Automation is about improving processes in order to deliver goods and services that are better for less cost. Automation is about effective human-machine collaboration. Automation is about reducing the mechanical, monotonous, routine tasks that humans need to perform and letting computers take over those repetitive tasks so that humans focus on the higher value add tasks that they perform best.

The purpose of this method is to create ongoing repeatable processes that are reliable because the processes can be controlled thus achieving verifiable high-quality of complicated information such as financial information. This results in effective automation. With the implementation of self-service rules, business professionals can control their processes. Rules provide control; control leads to high-quality; high-quality enables effective, reliable automation.

Old technologies are making it increasingly difficult to keep up with today's fast paced information exchange. New technologies such as structured information, knowledge graphs, artificial intelligence, and digital distributed ledgers offer significant and compelling opportunities to make accounting, reporting, auditing, and analysis tasks and processes more efficient and effective. A Forbes¹ article points out that organizations are already using artificial intelligence to create more intelligent products, create more intelligent services, and improve internal business processes. This method can be employed to create modern accounting processes.

But figuring out how to employ these new technologies and finding people with the necessary skills and experience to analyze systems and fix problems can be challenging. What if there were a standards-based proven best practices method you could use to improve your productivity?

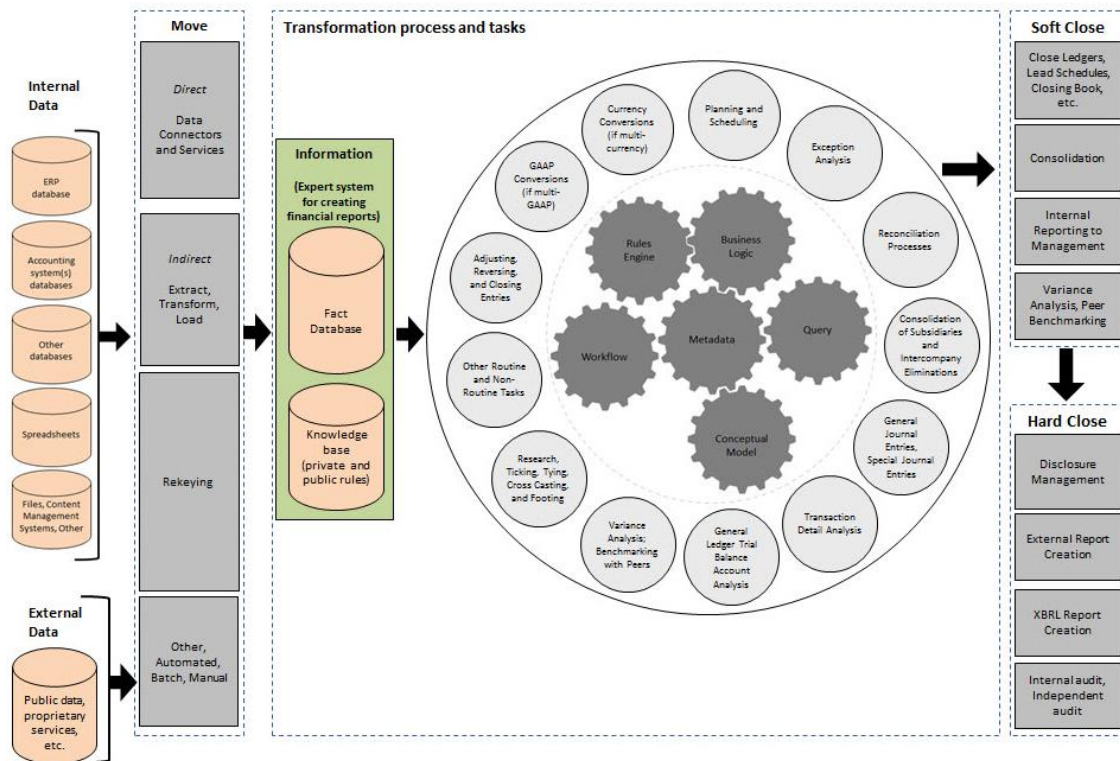
¹ Bernard Marr, Forbes, *3 Important Ways Artificial Intelligence Will Transform Your Business And Turbocharge Success*, <https://www.forbes.com/sites/bernardmarr/2020/08/03/3-important-ways-artificial-intelligence-will-transform-your-business-and-turbocharge-success/>

A business report is effectively a knowledge graph. Using the right techniques, this business report knowledge graph can be readable and understandable to machine-based processes as well as by humans. A financial report is a specialized type of business report.

Enter global standard technologies.

XBRL International's *Extensible Business Reporting Language*² (XBRL) is a global standard syntax for representing business information in machine readable form. Essentially, an XBRL-based financial report is a machine-readable knowledge graph.

OMG's *Standard Business Report Model*³ (SBRM) is a logical conceptualization of a business report. SBRM formally documents a logical conceptualization of a business report in both human-readable and machine-readable models. This enables a machine-readable report to be represented in literally any syntax. XBRL is one syntax; but you could also use JSON (JavaScript Object Notation), RDF (Resource Description Format), PROLOG (Programming Logic), Cypher, CSV, Excel, relational database, or literally any other technical syntax which you might prefer. Used together, XBRL and SBRM allow for the creation of a **reliable best practice method**⁴ for automating accounting, reporting, auditing, and analysis tasks and processes. This method's underpinning is a *Logical Theory Describing Financial Report*⁵. What technology you use is up to you.



² XBRL International, *Extensible Business Reporting Language (XBRL)*, <https://www.xbrl.org/>

³ OMG, *Standard Business report Model (SBRM)*, <https://www.omg.org/intro/SBRM.pdf>

⁴ *Understanding Method (Abridged)*,

http://xbrl.azurewebsites.net/2020/Library/UnderstandingMethod_Abridged.pdf

⁵ *Logical Theory Describing Financial Report*, <http://xbrl.squarespace.com/logical-theory-financial-rep/>

The global standard ISO Prolog⁶ is a modern standard approach to logic programming. ISO Prolog is a modern approach to processing a knowledge graph.

The XBRL technical syntax can be transformed bidirectionally to other technical formats such as RDF/OWL/SHACL, Graph Databases (GQL), relational databases (SQL), PROLOG, PSOA⁷. As *The Knowledge Graph Cookbook: Recipes that Work*⁸ points out, “The basic rule is that context tagging and classification should take place as soon as possible after the content is created.” For accounting information, this is generally at time of transaction entry.

While different organizations might prefer different implementation syntaxes and logic/rule/reasoning processing tools; the fundamental accounting logic behind the accounting information is the same across all organizations and are based on the double-entry accounting model and the accounting equation⁹.

Continuous accounting, continuous reporting, artificial intelligence assisted audits, algorithmic regulation, computational professional services, automated analysis all offer unprecedented opportunities to modernize accounting processes. But what are your challenges?

Information is entered into systems after transaction entry: The reality of many if not most finance processes is that a significant amount of information is managed using spreadsheets and that is where context tagging and classification occur.

The fix? Enter context tagging and classification information sooner, preferably at time of transaction entry.

Complex disparate systems trap information: The reality of many if not most finance processes is many dissimilar systems making information integration complex. Often, complexity is self-inflicted such as an incorrectly set up chart of accounts or a less than adequate mapping between the chart of accounts and a report writer or audit lead schedules.

The fix? Take the time to set up your accounting systems correctly.

Missing metadata: Far too often information necessary to flow data through a system is entered into the system at the end of a process instead of at the beginning of a process. This missing metadata makes it impossible to automate processes.

The fix? Establish standard metadata, enter that metadata as early in the process as possible, enable information to flow through the process where possible.

Missing information: Commonly, information necessary for a system to be automated is not available to the system and therefore information is supplemented by manually created spreadsheets.

⁶ International Standards Organization, ISO/IEC 13211-1:1995, Information technology — Programming languages — Prolog — Part 1: General core, <https://www.iso.org/standard/21413.html>

⁷ Primary Logic Processing Paradigms, <http://xbrl.squarespace.com/journal/2020/9/15/primary-problem-solving-logic-paradigms.html>

⁸ Andreas Blumauer and Helmut Nagy, *The Knowledge Graph Cookbook: Recipes that Work*, page 47, <https://www.poolparty.biz/wp-content/uploads/2020/04/the-knowledge-graph-cookbook.pdf>

⁹ Essence of Accounting, <http://xbrlsite.azurewebsites.net/2020/Library/EssenceOfAccounting.pdf>

The fix? Bring more and more tasks and processes into core systems and where possible avoid supplementing information using spreadsheets.

Overly manual process control mechanisms: Process control mechanisms today tend to be overworked accounting professionals that have to manually control process output quality within systems that push far too much work to the end of the process. This manual approach is expensive, not reliable enough letting errors slip through the systems, and cause more important work to be delayed or simply left undone.

The fix? Human-machine collaboration. Augment manual processes with automated processes and let machines help overworked humans get work done. Leverage Lean Six Sigma philosophies and techniques.

Communications issues: The typical professional accountant does not really grasp the possibilities that technology offers to improve processes accurately. Computer scientists do not tend to understand important nuances of accounting, reporting, auditing, and analysis and therefore cannot build systems precisely or set priorities effectively. Most accountants focus on getting work done allocating little to no effort towards process improvement.

The fix? It will take far less time for a professional accountant to learn what is necessary to communicate effectively with computer scientists than it would for a computer scientist to understand the important subtleties and nuances of accounting, reporting, auditing, and analysis. Take the time to improve your skills. If you don't want to make the investment, then hire a good consultant that has.

Wrap all of this within a standard digital distributed ledger¹⁰ to create what amounts to blockchain-anchored XBRL at the report level or transaction level to increase transparency and trust to provide an audit trail. This offers a standards-based ecosystem¹¹ for creating modern accounting, reporting, auditing, and analysis processes.

The beneficiaries of such standards-based approaches will be everyone. The losers if such standards are not created will likewise be everyone in terms of higher costs, less effectiveness, and less efficiency.

Using this method, enterprises can reliably and effectively stream a high-quality machine-readable XBRL-based global standard knowledge graph of a complete, consistent, and provably correct general purpose financial statement. Further, an entire record-to-report process can be automated effectively. This method provides both the flexibility and the control necessary.

¹⁰ IEEE, Blockchain Standards, <https://blockchain.ieee.org/standards>

¹¹ Auditchain, *Decentralized Continuous Audit & Reporting Protocol Ecosystem*, <https://auditchain.com/Auditchain-Whitepaper.pdf>



As the Harvard Business Review points out¹², the digital transformation is about talent, not technology. The coming digital transformation is primarily about people and the realization that effective digital transformation involves changes to organizational dynamics and how work gets done. The digital transformation is a paradigm shift. Don't use old, outdated mental maps to evaluate and understand the possibilities; it is important to update your mental map.

Want to know more about this method? For the next layer of understanding, please read *Understanding Method (Abridged)*¹³. Alternatively, try *Method – Terse Explanation*¹⁴.



¹² Becky Frankiewicz and Tomas Chamorro-Premuzic, Harvard Business Review, *Digital Transformation Is About Talent, Not Technology*, <https://hbr.org/2020/05/digital-transformation-is-about-talent-not-technology>

¹³ *Understanding Method (Abridged)*, http://xbrlsite.azurewebsites.net/2020/Library/UnderstandingMethod_Abridged.pdf

¹⁴ *Method – Terse Explanation*, <http://xbrlsite.azurewebsites.net/2020/library/MethodTerse.pdf>