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# Model-based auditing using REA

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ABSTRACT

The recent financial crisis has renewed interest in the value of the owner-ordered auditing tradition that starts from society's long-term interest rather than management interest. This tradition uses a model-based auditing approach in which control requirements are derived in a principled way. A problem with this approach is that it has been proven hard to apply it in modern complex organizations. Making it feasible requires at least an adequate enterprise modeling approach. In this paper, it is shown that the REA ontology fulfills most of the requirements for such a model-based approach. The analysis also suggests some directions in which REA can be extended.


## 1. Introduction

The financial crisis has thrown doubts on the relevancy of the auditing profession. As articulated by auditors who took a national lead in a growing international audit reform: “What if the mandatory, statutory audit is halted today: will our clients still call us for our *added value* tomorrow?” (Pieter de Kok, with endorsement by the Dutch Association of Chartered Public Accountants, NBA/Royal NIVRA, on accountant.nl, November 2010).

According to the Financial Reporting Supply Chain initiative of the International Federation of Accountants (IFAC, 2010), a possible remediation direction is to strengthen the profession's contribution to *long-term ownership* and *society interests*. A few quotes from this IFAC initiative illustrate the point: “Shareholders should more actively pursue their [long-term] ownership responsibilities”, and “Align managerial behavior with the interests of the owners”, (IFAC, 2010, Jane Diplock), and “Shareholders have little to say in the USA” (IFAC, 2010, David Webb).

Similar diagnostics and suggestions can be found in the European Commission green paper (European Commission, 2010), as illustrated by the following quotes “(…) lead to the abstraction, or even disappearance, of the concept of ownership normally associated with holding shares”, including reference to the scientific

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diagnostic research of Gaspar et al. (2005), and "How to practically improve shareholder control of financial institutions, if still realistic?", with relating questions on how to reinforce the role of the internal and external auditors and shareholders. More recently, Sirois (2011/2012) makes the same points in clear-cut words: "80% of daily trades are made by investors who hold the stock less than 7 s. The guy who holds your stock for 7 s doesn't care about your strategy, much less sustainability", and "The board is where owner capitalism must be reborn. Getting these boards to adopt an ownership mindset and act as owner-surrogates is our best chance to save Western capitalism".

To understand the added value, relevancy and function of the audit profession in the relation 'company–society' it is best to turn to Limperg's theory of rational confidence from the 1930s, also known as Limperg's theory of rational expectations, or the theory of inspired confidence, (Limperg, 1985). Especially of importance are the interpretations of Carmichael (2004) and Blokdijk (1975). The first served as first and founding Chief Auditor of the Public Company Accounting Oversight Board (PCAOB). The essence of Limperg's theory is concisely stated in Carmichael (2004): "*Thus, the most important factor is society's needs, and the related factor that interacts with it is the ability of auditing methods to meet society's needs. However, society's needs are not fixed and change over time. Also, auditing methods can change and improve over time.*" As witnessed by recent events, society has a need to counteract moral hazard for tax-payer bailouts and the moving of troubled bank balances to state balances where they lead to higher borrowing costs for the sovereigns (and their societies).

Let's return to the question posed by Pieter de Kok, leader of a national audit reform movement "What if the mandatory, statutory audit is halted today: will our clients still call us for our *added value* tomorrow?" and let's take this question one step further, and consider ensuing questions (Elsas, 2012):

1. What's the *pull* in the audit market?
2. What's the *push* from new developments?
3. How to *match* them to identify and develop new value adding services, with Return On Investment (ROI) for both legislative and principal audit mandate provider and for the audit profession community?

To clearly understand the pull in the audit market it is helpful to mentally reconstruct the original market mechanisms, thus before regulation made audit mandatory. These market mechanisms – the *raison d'être* of the audit profession – have actually never disappeared, they were just less visible due to mandatory compliance to regulation. To avoid confusion: it is not the statutory *status* of the audit, but instead the *content* of what has been made statutory, that is up for renewal.

What are these authentic market mechanisms? Historically, there are two main traditions of auditing, each having a distinguished normative framework — since norms substantiate the auditor's attest function. The distinction stems from *who* orders the audit: *owner-ordered* auditing versus *management-ordered* auditing. Both came into existence as a consequence of the separation between ownership and management in the first half of the 19th century. The owner-ordered audit tradition is rooted in Great-Britain (in 1844 stockholders obtained for the first time the right to audit the accounts of the company as prepared by management, Statutory Audit Requirement, The British Joint-Stock Companies Act) and developed particularly well in the Netherlands, and the management-ordered audit tradition is rooted in the United States of America.

Owner-ordered auditing addresses completeness, *understatement of profits*: whether revenues are understated and expenses are overstated. Expenses include management's salary and bonuses. As an owner you want assurance that management, who you entrusted your money, is not making profits while keeping parts of it unstated, since profits are the basis of your dividends and stock quotation. This is also in direct interest of *potential* shareholders and thus society at large – via institutional investors, pension funds, and ultimately tax payers – who consider to become a shareholder.

Management-ordered auditing addresses *overstatement of profits*. As management you want to attract investment capital by increasing the credibility that the profits you state are all real, not overstated, and so you hire the independent auditor to provide this assurance. Management's *illegitimate interest* – to understate or to overstate profits – determines the direction of the audit from a *market-driven value-adding perspective* — owner-ordered or management-ordered, respectively. Management in a healthy, growing company has the illegitimate interest to overstate profits and neutralizes this by hiring an independent auditor. For established or over-established companies without growing prospects this illegitimate interest