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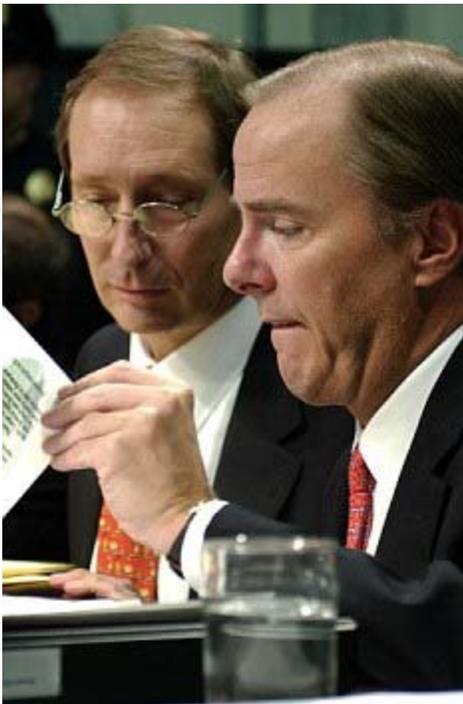
MailOnline

Could voice analysis software give away lying CEOs? New system picks up tiny 'tells' which could warn investors of fraud

- ⌘ Software scans voices for 'dissonance'
- ⌘ Can predict lying - tested using recordings of calls where executives WERE lying
- ⌘ Layered Voice Analysis could be used in investor calls to root out fraud

By [Rob Waugh](#)

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Former Enron Chief Executive Officer Jeffrey Skilling, right, reviews documents with his attorney Bruce Hiler on Capitol Hill

Scandals such as Enron have cost investors billions - and revealed that current methods of detecting boardroom fraud are sorely lacking.

Chief executives can't simply be subjected to lie detector tests during investor calls.

Often, the only method for looking into their affairs is auditors manually looking through accounts.

More often still, their dishonesty only comes to light afterwards.

But researchers at Duke University and the University of Illinois believe there is another way - using a technique called Layered Voice Analysis to listen for the telltale sounds of CEOs lying.

The researchers had an advantage: they could listen back to earnings calls where it was revealed afterwards that the CEO had been lying, and 'tune' their technique using convicted fraudsters.

The academics turned to an Israeli company called Nemesysco, and claim that they find 'vocal dissonance' in the CEOs speech at precisely the point when they were lying.

If true, the discovery could revolutionise the world of finance, and have ramifications in many spheres of life.

Nemesysco's technology is aimed at law enforcement and airport security, but the technique, which involves electronically analysing minute changes in people's voices to look for 'tells' that they are lying, could save billions in investor calls if it could pinpoint that a CEO isn't telling the truth.

The researchers write, 'We find vocal dissonance markers from the early part of the speech samples—the precise time when dissonance should be most pronounced—are positively associated with four measures of dissonance from misreporting.'

'This lends support for the LVA-based cognitive dissonance measure. In an archival setting, we find that cognitive dissonance in CEO speech can predict whether a firm's quarterly financial reports will be adversely restated at better than chance levels'

Nemesysco describe their technology as 'a set of vocal measurements, parameters and functions found through field studies of real life vocal data to correlate with key human emotions.'



The researchers claim that the Layered Voice Analysis technique provides an automated way to scan for the distinctive sound of someone lying

The idea isn't new - Nemesysco products have been trialled in the UK to detect bogus social security claimants on the phone, but were withdrawn after public outcry.

The technology has never been conclusively proven, but Nemesysco claims the algorithm is evolving.

The academics say that they do not know precisely how the software works, 'LVA is an emerging technology and, as with most commercial products, its inner workings are proprietary,' they say.

'While our laboratory results suggest the LVA dissonance metrics capture aspects of cognitive dissonance, we are unable to document the mechanisms by which LVA is able to do so.'

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