

Electronic bureaucracy and lack of reflexivity

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January 21, 2026

Universities typically have four types of computing departments: teaching department, research departments (these two can be combined), scientific computing departments, and IT (“information technology”). The first two are managed by academics, the latter two by engineers. Typically, there is nil communication between research departments and IT. IT may for instance deploy a digital signature system without consulting research groups that precisely work on cryptography and digital signatures. The same applies to electronic voting systems, or to so-called artificial intelligence. A researcher expert on “business process” programming languages may experience pushback if trying to use, as a case study, the processes deployed in his or her own university.

The very same academic who writes articles on computer security published in peer-reviewed international journals may have difficulties trying to ascertain why his or her own university does certain things in a certain way. He or she may be told surprising facts by clerical staff, for instance that a scanned PDF document is secure because it cannot be altered. He or she may realize that what they call “electronic signature” is actually a scanned handwritten signature copied-and-pasted where appropriate. He or she may be told that a system with security vulnerabilities is secure, nothing to worry about.

Obviously, academics are wholly unwelcome if they question why their own institutions apply such or such procedure, what rationale they have, what reasoning is used to establish that this procedure fulfills its stated goals. They are considered rude and illegitimate to ask questions, even if about their areas of expertise. In fact, their expertise may be questioned: what does a researcher on computer science know about real-life computing, anyway?

Research institutions sometimes deplore that the media, the government, or industry, do not seek enough their academic expertise. They run outreach and communication services, but they care little about internal collaboration. Why is this the case?

An obvious answer is that researchers and practitioners do not have the same goals and the same timeframes. Researchers build prototypes and suggest solutions for systems of the future; IT services needs something that works now and is industrially supported. Yet, this explanation does not seem sufficient.

Another possible answer is that the higher “administrative” management of universities may not be fully aware of the research that goes on inside. More generally, it may be the case that a large part of the educated population ignores that there is academic research in computer science. Indeed, when the media invites people to talk about medicine or surgery, they often invite professors of medicine or surgery; when they invite people to talk about computing, they invite people from the computing industry (who may or may not have technical

expertise). It is therefore pretty understandable that the chief financial officer would be willing to install “AI” to make her processes more efficient (read here: do with fewer employees), but does not spontaneously have the idea to consult about this with the AI research department.

Interestingly, the same institution may simultaneously consider that their researchers produce solutions valuable enough to be “transferred” to industry (and pressure researchers to seek industrial contracts, bringing much-needed revenue), yet consider that their expertise is irrelevant baloney with respect to its own computing operations.

Yet another, more disturbing, answer, is that the University, an institution that prides itself on thinking about the world, is incapable of reflexive thinking. The University seems unable to think its own procedures, its own choices. Is this the case?

We therefore have important questions to investigate:

- Why does digitization of administrative and financial procedures inside universities ignore academics who could be competent in these topics?
- How can universities expect that their academics be heard by the media and governments if they ignore them internally?
- Why do universities appear not to think about the relationships of the procedures they enforce with identifiable goals?