This paper argues that a distinction has to be made between different categories of information technology (IT) systems regarding their introduction and subsequent diffusion, and particularly with respect to their corporate usage. We will show that strategic deployment of e-mail will only happen if and when it is no longer considered an infrastructural technology. The findings and conclusions presented are largely based on a number of interviews with large corporate users of e-mail systems.

Elsewhere we have discussed the surprisingly indifferent attitude of corporate users regarding the use of electronic messaging systems. The search for an explanation first leads to the observation that large organisations deploy IT in very different contexts for very different purposes. IT artefacts can be found on plant floors, in R&D labs, and on secretaries’ desktops; the different purposes they serve include production automation, number-crunching, and accountancy. Despite these different application areas, at a very general level IT artefacts may be categorised as being either ‘specific’ or ‘generic’, i.e. ‘business relevant’ or ‘infrastructural’. A car manufacturer’s robot may serve as a representative of the former, a secretary’s fax machine as a typical example of the latter. In particular, a communication system is in many cases considered infrastructural technology.

Neglecting the crucial enabling role of an infrastructure has in many cases led to an environment where investment in infrastructure technology is given low priority. Indeed, the need to quantify the corporate benefits to be gained in several cases hampered attempts to upgrade a corporate e-mail system. Investments in this area are harder to justify as they will only result in intangible benefits, and are unlikely to yield an observable, or quantifiable, return on investment. It may therefore be assumed that for the time being extensive ‘infrastructural’ implementations may only rarely be anticipated.

Which technological systems are actually considered as ‘business relevant’ very much depends on an organisation’s commercial interests. In particular, a system considered by one company as being
‘business relevant’ may well have ‘infrastructural’ status for another, a phenomenon that may, for example, be observed in the case of e-mail where perceptions regarding its business value differ widely between firms. For each company technologies that relate to its core business - and its core competence - will naturally attract most interest. Biervert notes that although demand for standard software has been growing faster than that for special customised software systems, tailor-made solutions are still preferred if the system is ‘... affecting the primary business of firms, especially for areas closely linked to production and marketing ...’. It is in these areas that companies are willing to invest most heavily.

A company is likely to have developed very specific requirements and processes primarily in the areas of its core business interests, which, in turn, stand in the way of a straightforward installation of a system. It is here where long-standing, time-honoured traditions characterise the environment, and where technical systems as well as production and business processes have been designed to optimally meet the demands of their specific environment. A new system to be implemented here will have to be customised to a similar degree as have been the other artefacts in this environment. It is unlikely that standard components will provide the required functionality. Accordingly, it may be concluded that innovations are most likely to occur under these circumstances, i.e. when ‘business relevant’ technology is to be implemented. Indeed, it appears that recent research into innovations has almost exclusively focussed on what must be considered as ‘business relevant’ technologies, including robots for manufacturing plants, corporate cash management, home and office banking in banking, and CIM in manufacturing.

It has been mentioned above that ‘infrastructural’ artefacts may come from a wide range of items, their major common characteristic being the fact that they are not, or only to a very small extent, integrated into business processes. Typically, they are more or less equally useful for everyone, irrespective of his/her particular background or specific environments. Consequently, they are not normally subjected to well specified context-specific requirements as are the ‘business relevant’ ones. This, in turn, holds the prospect of a higher degree of freedom for the designers and implementors, possibly to the extent of reducing implementation to a mere installation of components, without the need for any further innovation.
Our case studies have also shown that only those few companies which consider e-mail as a strategic tool, i.e. as ‘business relevant’ are prepared to go an extra mile to implement a system that really meets their needs. This situation is highlighted by the representative of one of these companies, who remarked that his organisation frequently had to build their own innovator level tools to achieve the desired functionality despite inadequate products. In contrast to that, an e-mail system not considered as ‘business relevant’ has been a matter of buying off-the-shelf for other companies.

The above findings suggest that Biervert’s observation that “… it is unusual for a firm to go into developing and pursuing strategies for the development of technology when its main line of business lies elsewhere …” is not quite correct. Rather, irrespective of a company’s core business it appears that the perceived strategic importance of an IT system is the yardstick by which a company’s willingness to start its own development activities has to be measured - i.e. whether it is classified as ‘business relevant’ or ‘infrastructural’. Accordingly, a dedicated e-mail strategy - one which goes well beyond simply purchasing the same off-the-shelf system most others buy and interconnecting it to the largest service provider available - requires the recognition of e-mail as a strategic service as a necessary condition in the first place. For a sufficient condition a user company also needs to be able to contribute its specific competence to the implementation process, i.e. primarily an in-depth knowledge of its particular needs and of the characteristics of its specific local environment.