

Leonard Verhoef

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Leonard Verhoef (1950) performed research on human thinking. As a psychologist he was involved in the development of several systems (electronic mail, traffic control, process control, public transport, public information, software design, web).

He also investigated how to apply psychological knowledge in the design process (master thesis: "Why designers can't understand their users, development of a systematic approach using cognitive psychology).

Now he is working on "How to unenslave Windows users" and "How to organise our lives in a technical future".

More on www.humanefficiency.nl (most in Dutch).

Ticket vending machine interfaces, from buttons for fingers towards graphics for brains

Abstract

Looking to the past, we can discover how the future for TVM designers looks like. Ticket vending machines (TVMs) evolved in several decades from 'physical one product – one coin machines', towards 'non-physical contactless electronic systems'. For the last one there is no need for buttons, screens and ... maybe there is no need for designers anymore.

- The interface design technology was no problem in the *one coin and one product phase*.
- An extensive investigation, observing hundreds of train passengers with a hidden camera, revealed that in the *multiple buttons and text machine phase* it proved to be more difficult to design a user friendly interface than psychologists could predict. To solve the problems different strategies are chosen by Japanese, German, American, Swiss and Dutch designers.
- Then came the *frame button phase*. An extensive theoretical analysis for Netherlands Railways concluded firmly, that screens with frame buttons solve some problems but create other problems that are hard to solve for the interface designer.
- Therefore Netherlands Railways started *the touch screen phase*. After tests with several hundreds of passengers the answer on the question: "Is the touch screen TVM proposed to Netherlands Railways user-friendly?" proved to be: "Yes, even for people 90 years of age and not being able to travel anymore."

At this moment it is not sure what will be first: 1) the limits of touch screen interface technology or 2) *the contactless ticketing phase* making TVMs history. Another intriguing question is: "Will interface design itself fade away with buttons and screens?"