CONSUMER NEEDS
IN GLOBAL ELECTRONIC COMMERCE

THE ROLE OF STANDARDS IN ADDRESSING
CONSUMER CONCERNS

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ANEC is the European Association for the Co-ordination of Consumer Representation in Standardization. The association was set up in 1995 following a joint initiative between the Consumer Consultative Committees of the European Commission and the EFTA secretariat to create a single consumer voice in the European standardisation process for both EU and EFTA consumers. This initiative was launched in response to the important role that standardisation has taken on in Europe especially following the adoption of the European Commission's "New Approach to technical harmonisation" in 1985.

Since its establishment ANEC has been accepted into the standardisation process. ANEC is an associate member of CEN, accepted into the CENELEC family and a member of ETSI. As a result of ANEC's recent activities in the Information and Communications Technology (ICT) sector the association is also a member of the Commission's ICT Partnership, is represented on the Information Society Forum and is in liaison with the ICT Standards Board and the new CEN Information Society Standardisation System (CEN/ISSS).

ANEC's activities on electronic commerce have come about as standardisation has been promoted by industry and by public authorities as having an important role to play in the establishment of the information society in general and most notably in the growth of electronic commerce.

Under the New Approach there is a established legal framework which provides a backdrop for the standardisation work. This not only provides guidance for the content of the standards through the essential safety requirements but also provides for safeguards clauses which allow the public authorities to challenge the adequacy of certain standards. No such framework exists for much of the ICT standardisation. Yet public authorities still have responsibilities to protect their consumers and provide for fair competition in the market place for the benefit of consumers and industry alike.

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Whilst the information society potentially offers considerable benefits to citizens it poses new threats to their privacy and the security of their financial transactions. These concerns need to be addressed to ensure fair competition and the high levels of consumer protection the citizen expects. ICT standardisation also creates difficulties for direct consumer participation. If we consider more traditional standardisation consumer organisations often have considerable expertise in their own laboratories. This allows them to participate in standards-developing committees on an equal footing with industry. In the ICT sector however much more of the technical standardisation work is simply too complex for consumer representatives to be able to contribute positively in the working group environment.

Whilst consumer representatives perhaps cannot deal with the technical solutions which are discussed in the standards work they can articulate consumer requirements for the technology, products and services which are the subject of the standards work. Often it is not at all important for the consumer how the technical solution works in detail but that the resulting product or service fulfils the consumer requirements and performs in the way the consumer wishes.

Agreement at the European and international level on consumer requirements can then in our opinion help shape the standardisation work and ensure that consumer issues are adequately addressed even when consumer representatives are unable to participate directly in the standardisation work. For this reason ANEC has drawn up a comprehensive list of consumer requirements for ICT standardisation.

GENERIC CONSUMER REQUIREMENTS

From the basic consumer rights of access, choice, representation, safety, information and redress we have identified 20 generic consumer requirements that should be applied to all ICT standardisation. These are

1. Ease of use
2. Design for all
3. Functionality of solution
4. Multi-cultural and multi-lingual aspects
5. Terminology
6. Comprehensible standards
7. Inter-operability and compatibility
8. Consistent user interface
9. Adaptability
10. Provision of system status information
11. Error tolerance and system stability
12. Ease the consumer's need to remember system operation
13. Explorability
14. Privacy and security of information
15. Cost transparency
16. Quality of service, system reliability and durability
17. Reliability of information
18. Health and safety issues
19. Environmental issues
20. Rating and grading systems

These requirements have now been presented to the ICT Standards Board and have been adopted by the Board as a first expression of its own policy on consumer issues. ANEC also recently presented the requirements to SOGITS, the meeting of the Senior EU Government Officials on IT standardisation chaired by the European Commission. The document has also been very warmly received by the Information Society Forum, the individual European standards bodies and within the international standards bodies.

CONSUMER REQUIREMENTS IN KEY AREAS

The next stage in the elaboration of consumer requirements for ICT standardisation is to develop more specific requirements relating to certain technologies, products and services. This process is nearly complete and ANEC should be able to present these more detailed requirements shortly. These requirements cover
♦ Electronic Commerce
♦ Smart Cards
♦ Internet
♦ Public access systems

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♦ Mobile Communications
♦ Digital Broadcasting and Reception
♦ Smart Houses and
♦ Road and Public Transport Informatics

Whilst there are in total eight priority areas there is no doubt that electronic commerce is one of the most important sectors to consider. To achieve the enormous predicted growth in electronic commerce, not only must the demands of business be met but also the demands of the consumer. We must remember that electronic commerce will have to compete with existing methods of making purchases and completing consumer transactions. Consumers have a choice as to how they make their purchases and they will not be slow to exercise that right.

NEED FOR STANDARDISATION

Standardisation is needed then to ensure that consumers have the necessary confidence in electronic commerce systems. Notwithstanding the earlier remarks electronic commerce may be the only way certain products or services will be offered for sale in the future. Not being conversant with electronic commerce will reduce an individuals choice..

Electronic commerce can however also bring considerable benefits with it and standardisation has an important role to play in ensuring these benefits accrue to the consumer. Electronic commerce can for example, through potentially lower costs, offer better deals (e.g. price), than traditional city centre stores. Again, those conversant with Electronic Commerce may be able to enjoy lower prices, those not will pay higher prices (discrimination). Electronic commerce, may be the most suitable way to shop for people living in remote areas, single parent families, people at work or for disabled consumers. Conversely however consumers who are not able to use the electronic commerce systems or do not trust them will be discriminated against (i.e. disadvantaged) when this becomes a normal means of purchase. Electronic commerce also currently presupposes that the consumer has

access to a computer and a modem. The costs associated with this (equipment, operation, software, installation, training costs) will be a barrier to many. Learning to use such systems will especially be a challenge to the elderly. The use of other delivery techniques where the consumer already has invested in equipment (e.g. TV sets) needs to be considered on an equal footing.

Market forces for the introduction of electronic trade and purchasing systems are very strong and a number of incompatible payment systems on Internet have already emerged. Electronic commerce will have social, legal, ethical and technical implications for the consumer.

CONSUMER PRIORITIES
FOR ELECTRONIC COMMERCE

The main Consumer Priorities for electronic commerce systems are

- Ease of use
- Interworking between standards
- Standards for all delivery technologies
- Research into consumer aspects of Electronic Commerce
- Security
- Privacy
- Design for all
- Error tolerance
- System status information
- Cost transparency
- Order Confirmation

Despite a certain lack of practical experience with electronic commerce, it is possible to identify some areas for standardisation based on previous experience:

These include security of transaction, error tolerance, transparency of costs incurred, ease of use, interoperability, expected time for delivery, help when problems occur and privacy.

Ease of use is an acknowledged problem for consumers. Field studies in Norway of existing self service systems and of Internet show that while consumers may want to use a service, the design of the

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user interface does not allow for them to do so. Consistent user interfaces are therefore a precondition to use of the system by all citizens. (This can be achieved by user interfaces being adaptable to the individual, for example by coding on cards, or by user interfaces being consistent across several systems). Standard tools/ measurement techniques for measuring ease of use are needed. Electronic Commerce standards should also address ergonomic aspects of hardware, software, services and support. Existing standards should be applied e.g. ISO9241. Metaphors and supporting icons should be standardised to help facilitate ease of use. A picture and datasheet should be provided wherever possible.

Interworking between standards is a precondition for electronic commerce. Interworking is required between different application domains, different technologies and between the different standards bodies, both formal and informal.

Standards for all delivery technologies — It should be noted that the thrust of current standardisation work is directed ONLY towards delivery of Electronic Commerce via the PC. Other delivery technologies, e.g. TV, telephone, mobile phone are NOT being systematically considered in ongoing standardisation work. Given that most consumers in Europe have a TV and/or telephone (whereas PC home ownership varies between 10 — 50% across Europe) it is important with regard to costs, both for the consumer and service providers, that these existing delivery mechanisms are utilised. Standards are needed to support this.

Security of transactions is one of the most important aspects for the consumer. Providing an unknown organisation (abroad) with access to your bank account is a very unfamiliar concept to most users today, and places emphasis on security arrangements.

Password and user name are not enough, so new ways of encryption and digital signatures need to be refined and standard-

ised. An effective digital signature requires a public key algorithm, a secure hash algorithm, and a system of key management. Interoperability requires agreement on standards for these items, plus agreement on the security procedures of a Trusted Third Party or Certification Authority.

Information to the consumer about levels of security, and whether security has been breached could be based on standards. The process of delivering access codes to the user in a secure way should be standardised. To reduce the security risk from the delivery process, the consumer should be able to immediately change access codes upon their receipt. Standards should facilitate this. Clear and concise information must be provided to the consumer about security risks.

Privacy and confidentiality – Personal information, such as coding of user interface requirements, choice of service applications should not be disclosed to third parties, e.g. captured by service providers. Electronic footprints (traceability) should be avoided.

Design for all – Electronic commerce standards should support the principle of "Design for all". This is a process of creating products, systems, services which are accessible and use-able by people within the widest possible range of abilities operating within the widest possible range of situations.

This could be facilitated by standards on the interchange of different input/output devices needed to match the individuals requirements (e.g. a blind person wants voice output). Equally, an individual's requirements could be encoded in a standardised way so that the user interface of the system is adapted to the individuals requirements (language preference, input mode preference, currency etc.).

Error tolerance, recovery and abort and an easy obvious way out should be standard for electronic commerce. Lack of this causes the consumer to feel insecure and

inadequate. If there is high error tolerance and a standard «way out» it will help the consumer to feel more confident and at ease.

Provision of system status information – The status of the system (e.g. waiting for input, checking, fetching, etc.) should be always indicated to the consumer (feedback). Different mechanisms should be employed to give clear feedback to the consumer e.g. audio/visual for error messages, data input required. All messages should be positive and not place blame on the consumer.

Equally mechanisms for feedforward (especially of consequences of actions) should be available (if you start downloading the file you have selected it will take 76 minutes Press «cancel download» or «Download»). Feedforward is an attribute that helps build trust in the system.

Cost transparency – The system must be transparent regarding all costs involved. Cost information should be presented in a standardised way. This includes both initial costs involved for the user and costs in terms of subscribing to and operating the system, especially when interworking on networks, or when using on-line help or other fundamental services (e.g. directory enquiries, short message service on a mobile phone). Costs required for the return of a faulty or unwanted product must also be indicated. Disconnecting from a service must be free of charge or the charge must be stated in a standardised way at point of purchase.

It is important that the consumers at all times know the financial consequences of their purchase as well as the different ways of having the purchase delivered (by courier, by air, or by surface mail). This information should also include expected expedition time.

Order confirmation – Another important factor, especially for new users and elderly users, is getting a quick, personal (e.g. e-mail) response from the merchant. This

enhances a feeling of being a personal customer who gets personal treatment, even though there is no real personal contact. Any order confirmation should include information on what personal and financial data has been stored.

THE WAY AHEAD
The more detailed requirements we have outlined above in respect of electronic commerce and also in respect of the other priority sectors we have identified will be presented shortly to the ICT Standards Board in Europe. ANEC will also continue its participation in the standards bodies most notably in the CEN/ISSS workshop on electronic commerce, the ISO/IEC JTC1 Business Team on electronic commerce and the CEN/TC224 – ISO/TC68 SC12 electronic commerce expert team.

We believe that especially in those sectors where there is no direct consumer representation possible that these more detailed requirements can help to ensure that consumer issues are adequately addressed by the standards bodies concerned. The validation of whether the standards bodies do in fact take account of these consumer requirements is however perhaps the most important question. This then forms the basis of the next stage of our work.