

# Chasing End-User Utility in Interactive Service Delivery

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## Abstract / Zusammenfassung:

For an interactive television production, to be initially effective and attractive, desirable engaging and ultimately profitable, it must first *capture*, then *understand* and *exploit* the complex dynamic lying between the symbolic and operational relationships of technology, messages and meanings. This paper aims to explore the relation of people to new forms of services and then considers how the capture, understanding and exploitation of consumers (End-Users) feedback can be achieved in the context of an interactive service delivery.

## Keywords:

End-User utility, Interactive service delivery

## I Introduction / Einleitung

Although the pace of technological advances is often measured with respect to the other kinds of manifest change, like for example, physical, organisational, educational, cultural and perceptual changes; there has been strong suggestions (see e.g. [1, 7 and 8]) that, in the diffusion stages of new product/services, technology comes to shape perceptions, and perceptions, one way or another, come to shape technology. These mutual interrelated experiences are inherent not only in the creation of new services or physical artefacts, but also in the new organisational structures which support their consumption and use, and the conditions by which they may become successful in new market spaces.

Furthermore, there is more to this customers' perception-technology relation than simply the appearance and subsequent uptake of new products or services. The 'speed of technology development' and the 'customer perceived value realisation' of

whatever new service evolves and/or are realised in different time scales.

Interactive media, with its intrinsic consumer centric event-triggering capabilities, although constricted by the limits set by the design of software, hardware and interfaces, exacerbates the interrelation dynamics involved. They do so, not only at the level of perception-technology relationship, but also by introducing other functional, transactional and symbolic relationships, all of which can influence and direct the overall customer experience. These include the quality and determining aspects of the content material (the difference, for example, between a 'funny' and an 'engaging' or 'serious' programme). Furthermore, with the rise of other online service, like for example e-commerce, customers now also engage in direct and indirect relations with other business entities outside the broadcaster and service provider domains. In qualitative terms this entails the benefits and fluency of communicating with producers, creators and distributors of both digital and physical products.

For an interactive production, to be initially effective and attractive, desirable, engaging, and ultimately profitable one must first *capture*, then *understand* and *exploit* the complex dynamic lying between the symbolic and operational relationships of technology, messages and meanings [1, 10, 11]. Even though there are readily available new technologies that can enable creators and producers to learn of, and hopefully understand the End-User's (i.e. consumer's) needs, interests and desires; the prospect of dialogue, is ultimately confined by the design of services and content, as well as their delivery.

In this paper we discuss a conceptual framework to facilitate the capture, understanding and exploitation of ideas brought forward by active participants, starting with the End-User, in the creation and maintenance of new interactive services.

**Acknowledgement:** This work was partially supported by the EC-funded IST project 1999-11288 NexTV. The authors wish to acknowledge the valuable contribution that their colleagues in NexTV have made in this paper.

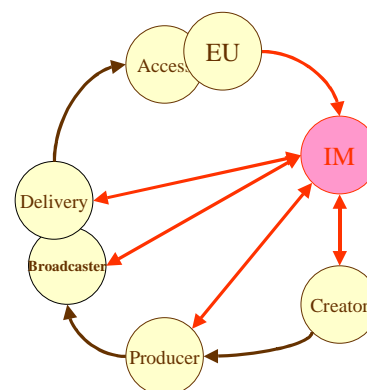
## II Capture of New Services and Technology Standards

New services often result from new gestalts or combinations of new technologies and already existing and established techniques and components. These are mainly drawn together creatively and in new ways so as to offer new value propositions. In order to come up with the right mixture of elements, key questions should first be answered: do End-Users understand the service/product as something new, distinct and different, or do they view it as a composite of familiar functions? Does such a view apply also to questions of taste and style and/or behaviour? Certainly End-Users' perceptions are, to varying degrees, social constructions, but how much can they be associated with the individual rather than taken as a products of a community or even the society and culture at large? For example, when television's functioning conflated with other activities such as shopping (which could even be seen as competing with television as a leisure-based experience) – as it does in t-commerce – then the revision of television's role and place in people's lives was not at all clear from the outset. Not surprisingly, the aims of social research into technology has more recently moved from macro-level concepts of 'markets' to focus upon developing understanding of emergent relationship between people and technology (see e.g. [5, 7 and 9]). Moreover, Computational Anthropology studies (see e.g. [15]) have been concerned with the study of the impact of computer networks on peoples' capacity to build-up social formations that would be able to serve the collective interests of their members.

When creating and maintaining a new service all interested parties (including End-Users) should be encouraged to participate, by means of focus education (if necessary) or by means of appealing training, and should be rewarded by using appropriate incentive schemes. This is not easy when targeting mass volume markets; an exception being children. Children adopt and adapt easily, and come under particular types of peer pressure in the development of interests and tastes. One of the service/applications that the EC NexTV project [3] is developing is aimed at a child audience and allows the audience to manipulate on-screen information and to share their thoughts regarding the storyline, and their creative input with others including producers and creators. In this application enabling technology (standards) and interactivity features are being assessed as facilitators of new social and cultural experiences as well as new business opportunities.

Standard-based applications are more tangible than the individual perceptions and idiosyncrasies of people and firms, rather like the difference of individual to societal views and opinions. But they should not serve to obfuscate either the complex social relations which led to their construction, nor that they entail compromise regarding needs and requirements of the End-Users. Furthermore, Standards can only guarantee 'fit' within a certain defined limit for creators and producers.

Since markets evolve at a pace faster than Standards are agreed, a new business entity with the underlying aim of *capturing, understanding* and *exploiting* the complex dynamic lying between the symbolic and operational relationships of technology, messages and meanings is needed. We refer to this entity as the Interactivity Manager (IM) in the context of the NexTV project (see Figure 1). In the initial stages of service definition, the IM may play the role of a translator of and clearing house for the original mixture of requirements. This is particularly critical in the transitional period until interfaces are well established, and a proper classification of requirements is agreed. This will facilitate consensus-building throughout all stages of the service life cycle even when standards have not reached maturity [2].



IM = Interactivity Manager  
EU = End User

**Figure 1: The NexTV project Interactive Delivery Loop and the Interactivity Manager (IM)**

Note that the realisation of the IM will be of added value if, for example, its inclusion helps to speed up the evolution of the perceptual changes and a reduction of the time gap between the perception and technology development time scales is achieved. Ideally, if on-time feedback is achieved (i.e. within the same time frame of evolving perception); the outcome could be a service experience for a life time.

### III Chasing End-User utility on line

One of the outstanding features of interactivity is that it can be realised through a creative symbiosis of communications systems and applications with those who subscribe to and use the service. Unlike traditional media, the new forms of media are marked by an elicitation of End-User interest bound to a functional requirement for the presence of other users to provide content.

It is well known that the desire to communicate in groups is fundamental to human nature. The desire to relate to other people continues to drive society today, and it is now reflected in the on line environment [4]. Therefore, it is not surprising that services aimed at mass volume markets (including TV and some Internet application offering), have been based on two key concepts. The facilitation or formation of appealing communities, and the use of incentive schemes to reinforce the sense of belonging to a particular community with the aim of extending the service life cycle and activating new revenue streams. Communities sizes manifest themselves in the shape of ratings (e.g. TV programme ratings). But, what is important to notice is that the members of a community often have views, feelings, fuelled by what they see and hear.

On line communities are currently enabled by a variety of disparate community tools, including, for example: chat rooms, discussion groups (bulletin boards), private mailboxes, group e-mail management and instance messaging. Examples of community based Internet sites are, e.g., Earthweb ([www.earthweb.com](http://www.earthweb.com)), Ebay ([www.ebay.co.uk](http://www.ebay.co.uk)), and iVillage ([www.ivillage.com](http://www.ivillage.com)).

Building a community is a critical mass game – once critical mass has been established the community will drive itself. When starting a community from scratch, the primary focus must be to attract the initial base of users who will drive its growth. At this stage not only context is a key factor but also the context in which the community will be build should be crystal clear. Most of on line successful communities rely in building emotional bonds with their members. This is achieved by building an application that has, for example, an attitude or approach to life, or perhaps even an ethical or moral position [16]. An application that conveys an emotional bond will attract a community of people that will share that outlook, and make new members feel comfortable that other members share their passion and perceptions. This process is evident in children sometimes over a very short time scale (birthday parties). This type of communication is achieved through visual design, look and feel and through content and commentary that reflects the

personality that the service is trying to project. Finally, it is important to notice that while immediacy is not critical to community, the ability to communicate in real time does seem to give life to communities by making the presence of other tangible.

The underlying question remains regarding how we can create a business environment that can tackle the problem of first developing a desirable and useful interactive communication, whilst simultaneously building a community who will communicate and relate to each other using the ‘language’ of the application.

The IM proposed within the NexTV project (see Figure 1) – that was originally thought of as a facilitator of formation of information ecologies – can well be used to identifying communities of interest. Since a greater social gratification could be achieved if interested parties are able to advertise their core competence and End-Users their needs, the use of the concept of user-centric loops is proposed. User-centric loops arise when a community is established between the various creative parties involved in the creation and maintenance of a new service. Other user-centric loops can be identified in relation to the delivery aspect of the business. Even more important, the framework introduced in Figure 1 is open to the possibility that End-Users could feedback technology Standards in their every day life environments. Finally, user-centric loops ensure inclusion of new users, new usage and new technologies as the application evolves.

### IV End-User perceived value

Capturing customer perceived value is a complex, never-ending challenge, even when applied to physical products whose use or function can be easily defined. It has been suggested that this is because changing technological or functional context changes perceptions of use [8]. For all active participants in the development of a new service, it requires continually watching and listening to End-Users and then knowing what to do with their requirements. But most importantly, it means formulating and asking the right questions; so as not to be trapped into End-Users’ dis-utility spirals.

At an early stage, it may be simply too difficult to forecast which aspects of a product/service used or function can contribute to its success and acceptance by the market, or what in fact needs to be changed about it so that it provides a better ‘fit’ [6, 14]. Furthermore, when a product/service is very new the prevailing market demographic attracted to it comprises largely of open-armed early-adopters, but common people may be cognitively ill-equipped to

discern the value of that which is unfamiliar. Since early adopters could almost be classed as ‘fans’ of technologists, the real question is: Will the great mass volume of the interactive television viewing public echo Yves Punnie’s findings when he found not resistance, but the more ominous [certainly from a commercial point of view] notion of “no need” [12].

Punnie’s remarks are very well understood by the Internet community and various attempts to cope with this problem have been proposed. The challenge isn’t getting someone to use a service for the first time, the challenge is to engage that person in a series of interactions and transactions resulting in new revenue streams. Doing that successfully may mean, for example, linking an online reward programme with around the clock offline redemption opportunities as and when the End-User needs them.

From the Internet experience it is clear that consumers expect more than just a basic aid for performing online transactions. Then the question is: how loyal are customers to one loyalty programme if a variety of reward programmes are available? There is evidence that more than half of online consumers can be wooed with loyalty points; i.e. reward sites are fairly sticky [13]. Some examples of the Internet reward programmes are: e-centive ([www.e-centive.com](http://www.e-centive.com)), Flooz ([www.Flooz.com](http://www.Flooz.com)), and MyPoints ([www.mypoints.com](http://www.mypoints.com)).

The other service that the EC NexTV project is developing is the provision of a stable portal for adding services to the normal viewing experience, and to improve on currently existing disparate services. The application includes the ability to provide an on line interactive back channel, and there may be even the possibility of employing bidirectional video communication, when connecting to a live sales person.

The IM business entity (see Figure 1) can again be seen as a facilitator and at the centre of this interactive scenario, not only during the normal offering of a mature service but at the early stages of the service development. The nature and flexibility of reward schemes may be the key success factor when introducing a new service. Reward schemes should also evolve with the changes of End-Users’ behaviour.

The concept of a user-centric loop allows to enhance and speed up the communication between End-User and other interested parties (e.g. redemption scheme providers) in the discovery and setting up of new revenue streams. A user-centric loop arises when communication is established between the various parties and an independent set of transactions is activated. Finally, the less confuse the End-User is with respect to the service offering, the more responsive he may become which should

result ultimately in time saving for all interested parties.

## **V Final remarks: On Technical, Business and Social Experimentation**

Punnie’s findings are important as it reflects the flaw of overly optimistic and even biased methods which characterise much of the market research which aims to positively identify “consumer needs and requirements” and “market attributes”.

New interactive services are not only complex technically, or complex from a business implementation perspective, but they are at their most complex when they aim to meld with ‘everyday life’ activities. Situating interactive services in a valuable way in the everyday life of its numerous End-User communities represents one of the most sophisticated challenges faced by modern technology.

Within the innovation and diffusion of new technological services or system (much like certain cultural views and beliefs hold within the societies which gave rise to them), the End-User is not necessarily considered. Moreover, End-Users rarely if ever, sits on Standards committees since most standards recommendations focus and constrain design possibilities. But without openness in markets and design, their can be little opportunity to innovate, and little chance of learning from either producers or End-Users alike.

In the contrasting reality of every day life environment combined with sophisticated service offering; educating the End-User is of paramount importance. Education should aim at facilitating End-Users decision-making, and interested stakeholders need to acknowledge the full significance of providing detailed information and knowledge to enable customers to become sophisticated End-Users as soon as possible. The End-Users’ interpretation of user-centric loop information and their acquired knowledge will facilitate the formation of communities.

As community tools are sticky applications, their use increases session length, and encourages repeat visits. Such attributes are valuable for any advertising or sponsorship driven application. Communities can also significantly lower support costs since fellow users may be able to answer many of the questions that an End-User has.

Furthermore, communities that rely on user-generated content are also self perpetuating. And hence, the key advantage of such communities when using a user-generated content model is that it is immensely scalable.

Recent research also suggests that the concept of what loyalty schemes may mean is blur. A loyalty programme is not a simple mechanism “to earn currency of value for doing something you might do anyway” [13]. Furthermore, there is evidence that generic loyalty schemes are being merged with other schemes such as acquisition and promotional schemes; creating the foundation to a more generic incentive scheme that will encompass acquisition, promotional and loyalty schemes in a one stop shop service offering in a consolidated way. The underlying feature of an incentive scheme being that should ultimately reward (in some way) consumer behaviour as well as taste.

From a technical perspective standards are emerging and there is some consolidation of components and systems. In parallel several ‘off-the-shelf’ system alternatives some of which have witnessed large-scale deployments. All of this with the aim of allowing active participants and interested parties on the creation and maintenance of a new service to discover new markets spaces, facilitating perceptions and experiences as they evolve and converge in their own time scales.

Finally, to come up with a define set of market attributes may be difficult since the nature of interactive service delivery as a differentiator from broadcast TV or Internet is difficult. However, the correct mixture and timing of education, formation of communities, and incentive schemes may pave the way for acceptance.

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