

# USER EXPERIENCE ENHANCED PRODUCT LIFE CYCLE

## *Industry Spanning Modular User Experience Paradigms*

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**Abstract:** The introduction speed and complexity in the digital information / multimedia age poses challenges for the “normal” end user. New digital technologies, services, products are often provided to the end consumer having a bad user experience (e.g. WAP, PTT). Companies need to encompass user experience into the product lifecycle. Instead of multiple different user experiences for many “digital” based consumer products only a few should exist, using key user experience paradigms. Application of the key user paradigms shall enable users to use products more intuitive (even if different industries are involved) and guide them to use most of the supported use cases provided, when needed. Society is under constant evolution and change (e.g. demographic factor) The user experience enhanced product life cycle should be harmonised with the standard product development: promotion, pricing, product, placement but also take the society change (e.g. silver generation) and new life concepts into account.

## 1 INTRODUCTION

The vast variety of products, goods, services ... overcharge people, even with “easy” tasks to buy a washing powder or body cream.

Technology development in traditional manufacturer industries accelerated the production of goods and therefore reduced costs. Due to this, markets changed from sales, to buyer to product market (Herrmann and Moeller, 2006). New technologies, services, products (physical or digital) are developed, which are often thrown into the market without consumer orientation and explanation. Instead these “developments” are strongly or purely technology driven providing the user with a bad or confusing user experience.

Focusing on digital products / services, “good” examples for a bad user experience, were introduced with the hype technology of the last decade: mobile telephony. WAP (Wireless Application Protocol), which was used as synonym for the mobile Internet and another more recent example push to talk (peer to many communication) a success in the USA but not in EU, showed what happens if the user is not integrated in the product development cycle. While in the first case people’s expectation was not hit at all, for the latter there was a lack of understanding for the need and the use case (innovations-report). Part of the confusion might also result from English

based advertisements in non English speaking countries, native people do not understand some slogans (e.g. Germany (sirvaluse).

A good example are some music enabled mobile phones (e.g. Sony Ericsson “Walkman” or Nokia N-Series music (sonyericsson), (Nokia)), where on these devices the product mobile communication and mobile music listening co-exist.

The introduction of new technologies has always changed the way of life dramatically. Developments, innovations ... often lead to a society change. G. Schulze describes today’s society as “The experience society” and investigates, how society changes if the constant battle to survive is no more existing, like the era after WWII (the post war era) and people become more subject centered (Schulze, 2005).

Another interesting trend in this context is thin out of the middle (Herrmann and Moeller, 2006). “People tend to buy more often rather extremely cheap or expensive.” This behaviour makes it more difficult for product and brand placement.

The so called silver generation is feeling younger and is interested to use modern technology as well and in addition possesses the money to pay for it!(Deutsche Bank). But it is inevitable to address also the personal circumstances, like reduced fitness, reduced visual acuity ... and to incorporate the elder segment into the product lifecycle.

Therefore existing segmentation models become out of date.

Solution attempt:

Understand modern regional life concepts

Develop user experience paradigms / modules

The example show, that in order to create usable but also needed / required products or services it is necessary to integrate user experience early in the product lifecycle in companies, provide similar product user experiences even in different industries and change from standardised segmentation models to more flexible world of life concepts.

## 2 CHALLENGES

Today the end user is bombarded with advertisements, product information and new technologies from everywhere.

Commercials / advertisements are provided to the end user via four technical communication channels (TV, Radio, Internet and mobile telephony) and three other channels: print media, shops (if available) and people themselves (see figure 1).

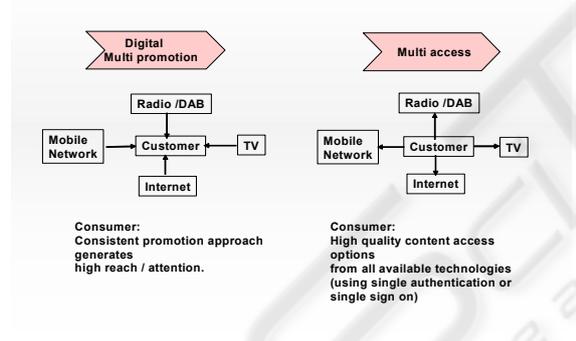


Figure 1: Seamless user experience. Digital promotion towards the customer and multi access.

The coming all IP network structure (IP Multimedia Subsystem) (Forrester, 2005), which separates the network from the service layer, leads to the possibility of seamless access to multimedia contents, multiple usage and multiple distribution.

Via advertisements and the existing promotion customer expectation of seamless multi access multi usage and super distribution already exists (see figure 2) but is hampered by different formats (e.g. digital music: mp3, aac, aac+, video: H.264, 3GPP) or digital rights management (OMA).

Products need to be created in an user adjusted manner. Doing customer based research, consumer expectation, demand, requirements and abilities shall be understood and documented in more detail in a

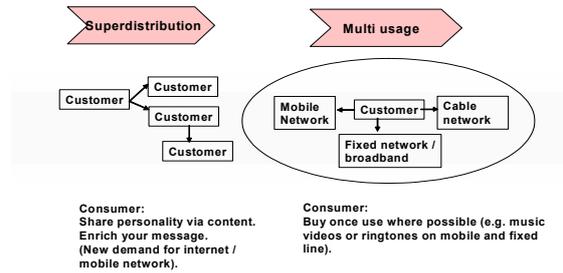


Figure 2: Seamless user experience. Illustration of super distribution and multi usage of customer owned content.

highly complex digital world, by doing and comparing primary and secondary market research.

A detailed investigation in how product introduction (focusing on digital content provisioning) into the market could be made more successful than in the past using upcoming topics in the telecommunication and multimedia industry (e.g. IP Multimedia Subsystem, Interactive TV, IPTV (Forrester, 2005), UMTS, PTT) and combining them with the traditional approach: product, pricing, placement & promotion (Ramme, 2000) (see figure 3).

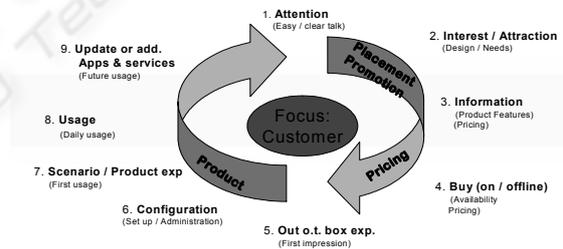


Figure 3: User experience cycle: Assignment of the four marketing principles Placement, Promotion, Pricing and Product to the product lifecycle.

In terms of User Experience many definitions exist, getting themselves complex.

It is the aim of this thesis to use only three guiding principles simplicity, similarity and consistency and three supporting elements design, expectation (see figure 4) and understanding to derive paradigms for a lasting user experience on a broad range of products and investigate if and how these could be used in combination with a user encompassed product introduction cycle.

Therefore it is necessary to further detail the user experience product introduction and lifecycle management adding learning from other industries and carrying this out for products where similar usage flows, GUI, sound patterns... are already or will be used (e.g. mobile and fixed line GUI, mobile – on board traffic navigation system).

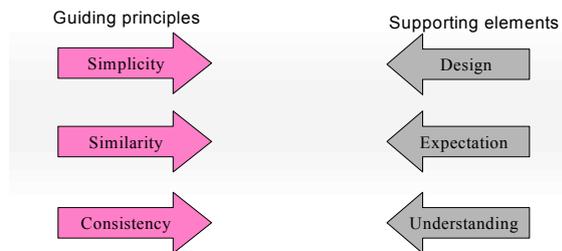


Figure 4: Focused user experience: Three guiding principles & three supporting elements.

The introduction of new technologies has always changed the way of life dramatically. Traditional ways of communication (e.g. letter, postcard, fixed line communication) vanish and new arrive (e.g. email, picture postcard via MMS, SMS, mobile communication).

The changing user behaviour (e.g. parallel communication (Laurer, 2006) and upcoming of new trends (youtube, my space) in conjunction with the shrinking population in the western orientated world demographic factor needs to be addresses from all industries.

The thesis shall identify way of life concepts, community behaviour, compare these with existing segmentation models and use them at future products.

### 3 CONCLUSION

The importance of user experience is doubtless and most industries use some kind of procedures like user centered design, user centered information design, usability engineering (IBM).

A new kind of user experience needs to be generated which incorporates the life concepts of people, there society and their regional and cultural differences Tractinsky (1997) found that culture affects the user's perception of aesthetics and apparent usability (Culture and usability evaluation, 2006).

Usability has an enormous potential in the modern communication age in terms of attracting new user groups and in terms of economics reducing the training costs (netigator).

A recent example is the new Apple phone which will presumably have a mode dependent user interface and will be part of the investigation (Apple).

This new user experience needs to create usage paradigms similar to modularity used in many industries (computing, automotive...) but also needs to incorporate the upcoming cross functional possibilities of the multimedia age like a net based, presence and location based phone / address book.

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