



How to develop successful and consumer-orientated new mobile and online services?

**An analysis of critical factors for success, today's problems,
general trends and future fields of work**

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Die Vision, die dem C-LAB zugrunde liegt, geht davon aus, dass die gewaltigen Herausforderungen beim Übergang in die kommende Informationsgesellschaft nur durch globale Kooperation und in tiefer Verzahnung von Theorie und Praxis gelöst werden können. Im C-LAB arbeiten deshalb Mitarbeiter von Hochschule und Industrie unter einem Dach in einer gemeinsamen Organisation an gemeinsamen Projekten mit internationalen Partnern eng zusammen.

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**How to develop successful
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**An analysis of critical
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and future fields of work**

Siemens Business Services C-LAB

**Christine Ludwig
Dr. Heidi Hohensohn**

Abstract

Many of today's applications are technically very sophisticated, but have no success on the market. The reason for this is quite simple, but has a deep influence on how to develop a new service.

The consumer and his needs must be regarded as the central factor of design. If an application is only technically very high-levelled, but not really offering an added value to the consumer, the usecase will have no chance to be placed on the market successfully.

This paper shows critical factors for success, which have to be regarded:

- consumer behavior in the future
- consumer today's problems

Therefore, the development of demographic data, general future trends and future consumer behavior are presented and discussed. Based on the today's problems, in the next step future fields of work were derived. Considering a new technology or solution to all of these aspects, helps to identify its potential as well as its critical factors for success.

Key words

Consumer behavior, future trends, critical factors for success, today's problems, future fields of work

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Introduction

Today, quite too often the development of new products and technologies is driven by the technique only. The focus lies on technical aspects, consumer needs are not regarded as the main aspect. This way of thinking results in high-level technical solutions, but does not guarantee the usability and the real added-value of products and services. Therefore this way of thinking has to be generally changed. The added value for the consumer has to be regarded as the starting point for the development of any new technique and system.

So for the success of new technologies and systems, it is absolutely necessary to take consumer needs into account. We made several studies based on own desk and field research in order to find out consumer's needs and wishes. We generated two decisive factors for success, which should be noted and checked during the whole design and development process of a new service or solution:

- 1) Consumer behavior in the future**
- 2) Consumers today's critics on mobile and online services**

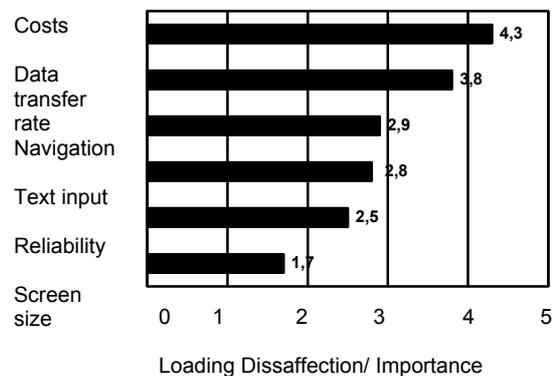
The examination of the consumer behavior in the future includes the analysis of the demographic data and general future trends and their effects

on consumer's habits, needs and wishes as well as their effects on lifestyles. In consideration of this, technologies and services can be developed which include a future view and a bigger potential of the market.

Investigation of today's problems helps to understand which problems consumers have using and dealing with applications. These results can be used to create awareness of obstacles, so that the same mistakes will not occur during the design and development of a new technique or service again. The examination of today's critics and failures can be a starting point to develop new applications in order to solve the existing problems, as well.

For example, the Boston Consulting Group conducted a study about the main reasons for the disaffection of M-Commerce users. Many people were really worried about the costs, but usability aspects were also very important. The consumers also named navigation and the usage of the application as important factors for satisfaction. Other aspects were more technically focused such as the data transfer rate and the screen size. The following chart shows the results of the study:

Disaffection of the users of m-commerce



Source: BCG, 2000

All in all it is not possible to develop a technique purely for itself, but rather the added value for the end-user is the main aspect, especially for a faster and wider acceptance on the market and a more likely business success.

1) Consumer behavior in the future

Which consumer trends are now most relevant for the development of new techniques? The habits, needs and wishes of consumers result from different factors of influence

- 1) **Development of demographic data**
- 2) **General future trends**
- 3) **Consumer trends**

1.1) Effects of change in demographic data

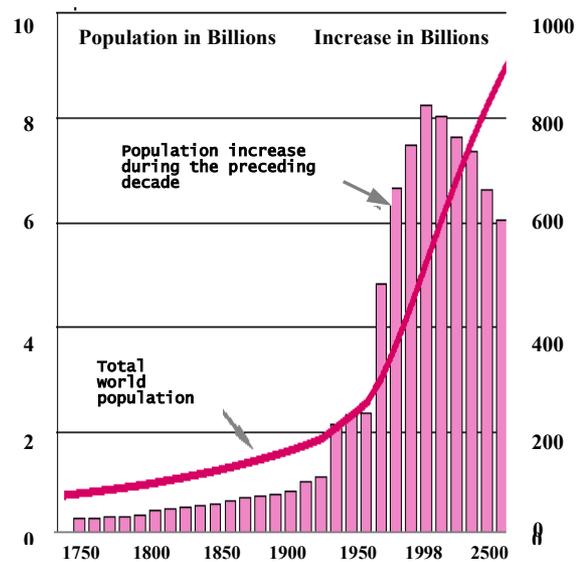
There are three main demographic trends, which can be recognized in all countries of Europe, although the developments are even stronger in the north and west European countries. These trends are:

- a) **Slowing rate of increase**
- b) **The overaging**
- c) **The rise of single-households**

1.1.1) Demographic data: Slowing rate of increase

Although the total world population expects future growth, the rate of increase is slowing. (see fig. 1).

Slowing rate of increase



Source: United Nations (1995:97) and U.S. Bureau of the Census, International Data Base.

The growth of the human population will be almost entirely in the world's less developed countries. Especially in Europe, it is prognosticated that the population will decline from 729 million inhabitants in 2000 to just 628 million inhabitants in 2050.

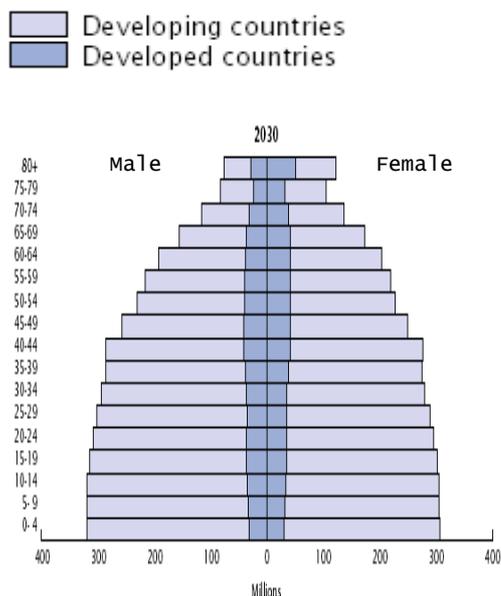
This means that the long-term rate of new clients for technologies and solutions in the more developed countries will inevitably sink.

1.1.2 Demographic data: Overaging

In all countries, especially in the developed nations, an overaging of the population takes place. In North America and Europe, in 2000 the percentage of the elderly (people aged 65 and over) in relation to the whole population is nearly 24 %. By 2030, this percentage is projected to increase to 40 %.

Overaging

Population by Age and Sex: 2030

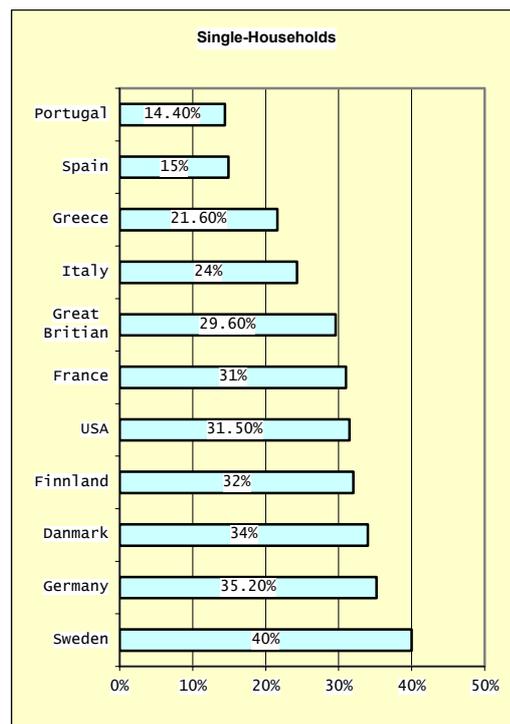


Source: United Nations, 1999 and U.S. Census Bureau, 2000a.

This means that seniors become quite an important part of the population. The seniors have to be split up in two groups, however: first the elders (older than 70 years), which have a lack of mobility, but a need for services (especially health, social and care services). The other group is the young seniors, between 55 and 70 years old, which are very mobile and very agile. They have a lot of time and often enough money, so they are a very interesting user group for new mobile media solutions and they especially should be introduced to the new possibilities and the new services.

1.1.3) Demographic data: Rise of single-households

As a result of a social change, the number of single households in nearly all developed countries has increased. In the US, ca. 30 % of all households are single person. In Europe, the rate of single-households raised on to about 40 % in Sweden.



Source: Eurostat, 2000 et al.

In the last decades, more and more women have become a part of the workforce. Individualization, flexibility, mobility and independence became key words for a lot of people. The family is no longer the only way of life. Young professionals especially just want to take charge of their career, but not of anything else. In some countries like Denmark, the Netherlands, France and Germany, nearly one third of all households consists of only one person. This trend is growing— especially in the big cities. For the development of new technologies and services this means that young professionals are an especially attractive target group, because they have a high disposable income and they have the ability to spend much money for consumer goods. Normally they are technically interested and they like to deal with new technology. They do not have very much time and therefore time is a really valuable factor for them. Due to this, they look for fancy solutions

which make their life easier and more convenient. They also have an immense need for communication and are therefore looking for new possibilities to communicate and to have fun as well as to be kept updated of trends and events.

Children and teens often are better informed about new technologies on the market and they are better at dealing with new devices and applications than their parents – insofar the generation @ is overtaking every other generation!

1.2 General future trends

As a result of the development of the demographic data, the new possibilities due to fast changing technologies and the changes in values and standards, new trends in society have been recognized. Some relevant trends for the design of new mobile and online services and solutions of the future are:

- a) **Generation @**
- b) **Kick and cult**
- c) **New Work**
- d) **Individualization**
- e) **Globalization**
- f) **Knowledge**
- g) **Virtualization**

These trends can already be recognized today, but are even getting stronger in the next few years.

1.2.1) Future trend: Generation @

Children in this century grow up with more and more technology. Due to the new information- and communication technologies, a “computerization” of the way of life take place. Therefore the young generation adapts quickly to new technology, and is well prepared for the new challenges. The world of the PC has become a part of everyday life, and at a very early age children start playing with and learning with the computer. The generation @ is stamped by tempo, technique and fun.

1.2.2) Future trend: Kick and cult

Entertainment, experience and fun is taking first place in the way of life of more and more people. People do not want to take on any responsibility, except for their own life. “Having fun” is the motto for everything they do. As an example, events like the Love Parade in Germany are getting more and more popular and are even adopted by other countries. Also, more and more people like to gamble and are searching for extremes. Therefore new sports like river rafting, bungee jumping and free-climbing became very trendy. The main principle is: Fun + Kick + Adventure + Experiences.

1.2.3) Future trend: New work

Due to the changes and developments in technology, working conditions have changed as well. New jobs have been created and new forms of work have been developed. An example of this is the home office or freelancer work. Working on projects instead of life-time duties enables other forms of work as well. Virtual teams are created to work together for only one project for a defined period of time. This means that central times will not be that important in the future because of worldwide networking. In other words, working around-the-clock will be possible. More flexibility and mobility are demanded by the employees. As a

result, employees typically change work environments every 2-3 years.

**1.2.4) Future trend:
Individualization**

According to the trends of new work, kick and cult and the rising of the single households, individualization and independence are becoming more and more important. Nobody wants to make compromises any more. Everybody thinks about self-realization which sometimes mean to place the highest priority of all on the career. Therefore everybody becomes the manager of his own biography.

In professional life, realizing the best possible career path which also offers real variety is a requirement for a rising number of employees. Life has become a strategic game set up for people to develop and attain their own targets and dreams. One's own initiative and permanent advancement are the basic rules. Continuous education and training are the foundation to increase one's own value. "Self-branding" takes place. This means that the personality becomes a brand and that the image must be constantly perfected. Any service has to fit to this image. During this stage of life many people behave like stage-managed hedonists.

**1.2.5) Future trend:
Globalization**

In the last decade, the world has grown closer. This trend will proceed further in the next few years, coupled with the expansion of the new information and communication technologies. Communication and commercialization are now possible without any restrictions due to frontiers. As a result, the world will become a global village.

Most people believe in globalization as a guarantee for economic wealth and the worldwide exchange of know-how, products and services. An international division of labor takes place as well. However, some people are frightened because they regard globalization as a factor for imminent unemployment or elimination of cultural characteristics.

1.2.6) Future trend: Knowledge

An economic change has taken place over the last few years. The industry of production is changing into an industry of knowledge and ideas. In comparison to material goods immaterial factors like knowledge, creativity and ideas will become more and more important in the next few years. In addition to the traditional factors of production like property, work and capital, knowledge becomes the fourth factor of production. The sharing of knowledge and lifelong learning are consequences of this economical change.

**1.2.7) Future trend:
Virtualization**

The rapid surge of information technology has deeply influenced our way of life. Patterns of life and habits change because of new possibilities. As an example, communication and the search for partners and friends take place more and more in chat-rooms. The electronic buying of goods has not exploded as it was prophesied, but for some goods such as books, tickets and flights, high numbers are sold via the internet and the numbers are increasing. People use the virtual world to more efficiently organize their life.

1.3) The effects of the demographic data and the future trends for consumer behavior and demands

Demographic data and future trends are the basis for the habits and the demands of consumers. The main trends are weighted differently in particular countries, but as a result of these trends and data there are:

- a) **Convenience-orientation**
- b) **Price-orientation**
- c) **Low-involvement**
- d) **Mobility/ flexibility**
- e) **Shortage of time**
- f) **Experience orientation**

1.3.1) Consumer behavior: Convenience-orientation

A new solution will only become widely accepted by the market if there is a real advantage in its convenience compared to established solutions. People are looking for support for daily life situations.

For a new product or service to be successful, it is absolutely necessary that convenience is taken into account during the development and the design of the solution as a central point for acceptance. This means that the usability and the support of a service is getting really important – instead of demanding, complicated structures! Many products are sophisticated designed or contain a lot of additional functionalities, but are too complicated to use. “Convenience” implies that a new application as well as dealing with the application should be very easy to understand. An intuitive handling is an absolute requirement.

All products which make people’s lives easier and are more convenient, have a lot of potential in the market.

1.3.2) Consumer behavior: Price-orientation

Today, consumers are very price-oriented. The study conducted by the Boston Consulting Group (page 1) underlines this hypothesis. Many tools exist to compare prices and agents to determine where a person can get the cheapest product.

Therefore it is important that the realized price for a new solution or service is well proportioned to the convenience of the application. It is essential that the “realized price” rather than the “absolute price” be used to determine consumers behavior. Therefore the solution or service must offer an added value for the end user, so that the price for it is considered reasonable. The good price-performance ratio should also be pointed out in sales talks and advertisement. Taking into account that time saving is the most valuable factor for some target groups, this opens up some advantages in price definition.

1.3.3) Consumer behavior: Low-involvement

As shown by future trends, people are very concentrated on their self-realization, their self-awareness and their experiences. On the other hand, they have minimal interest in information about a contractor and sophisticated condition descriptions or complicated manuals.

Too often, contractors overestimate the interest of consumers and overload them with information. The result, on the one side, is that the marketing is not effective or that these information are deterred.

On the other side, it is very important that services are easy to understand and to use. Nobody wants to spend a lot of

time learning new functions and applications. Therefore applications and functions which are very complicate to use or which have to be explained by a big manual, cannot be placed on the market or even if the benefit is absolutely obvious. Unfortunately, not everybody takes this into consideration when designing and developing products and solutions.

1.3.4) Consumer behavior:
Mobility/ flexibility

Today, Traveling, change of residence and work and daily mobility are gaining more and more influence on our life. Insofar, mobility becomes an integrative part of our society. Services and solutions which support and simplify this need for mobility, may become key applications in the modern world. A basic need for very mobile, flexible people in the future is to be able to communicate with everyone everywhere at any time. Second, people need support for orientation in a foreign country and/or town. Services and solutions which help people to satisfy these needs could be very well positioned on the market.

1.3.5) Consumer behavior:
Shortage of time

Although objectively people have more hours of free-time today than ever before, they increasingly feel that they do not have enough time at all. This feeling corresponds to the search of the consumers for experiences and kick and cult. People travel a lot today, are participating in more sports and enjoying their hobbies. In most cities, the number of restaurants, theaters, cinemas etc. has risen in the last few years.

A large number of very different leisure facilities are offered to everyone, and therefore everybody wants to try everything – which certainly costs a lot of time!

As a result, time is regarded as a very valuable good. A solution supporting the customer to efficiently fulfill his routine tasks in order to save time offers directly an added value.

If it is possible to place a solution as a time saver, people are willing to pay more, because the added value is directly evident.

1.3.6) Consumer behavior:
Experience orientation

Very closely linked to future trends kick and cult and individualism are the experience orientation of the consumers. Hedonism, pleasure, and self-development are values with a strongly increasing relevance for nearly all walks of life. At the same time, more than half of the population can be assigned to the group of consumers looking for intensive experience and diversion, and this tendency grows even stronger! “To live here and now!” is always the motto. This trend can also be seen in advertising or in the presentation of goods where marketers attempt to address all of the senses. People are looking for sensual impulses – as a compromise for the rational and technical world in which they live. Therefore for consumers the additional experience attributes and features of goods (like blind dates, chats,...) are even more interesting than the attributes for satisfying only the pure needs. This can be seen everywhere: restaurants with circus program, extreme sports, adventure holidays, everything is sold with the supplement of “being an event”.

As a result, solutions and services for which the usage itself is an experience because they are interesting and/or fancy have a lot of potential. Applications which enable or support the experience character of many different situations are very promising as well. Therefore, scenarios and applications for museums, exhibitions, traveling, games, events etc. should be developed in order to satisfy the consumer's wish for entertainment and experience. Also in other fields new solutions and services have to be developed which help to make the content more attractive and in that way more experience orientated.

2 Today's problems

Currently, many helpful and reasonable mobile and online services are not as used as expected. What are the main problems users have with presently offered online and mobile services?

2.1 Security

Users does not believe that it is safe to present personal data in an online mode. Mobile banking seems to be a useful application, which is quite positively rated by clients and experts. The reality looks quite different: Worldwide, 280 million people use the Internet daily, but just 40 million (14.28 %) participate in mobile banking, although nearly everyone criticizes the service and the inflexible business hours of banks.

The same problems exist in e-/m-commerce. People like the idea of buying goods via the internet until they come to the point they have to present their credit card number.

If the feeling that personal data can be misused by other clients and can be given to the end-users is not overcome, the success of mobile and online services is quite doubtful. And again, the perceived risk is relevant for the consumer, not the real one!

2.2 Credibility

Much of the information on the Internet does not seem credible to customers. Especially in the case of the purchase of goods and services, people are very skeptic whether the given information is correct or not. If a consumer recognizes incorrect information once, he may lose his trust in the whole process. An independent trust center which offers a guarantee for the risks in an internet transaction between the vendor and buyer could reduce the risk of wrong or inaccurate information.

2.3 No sufficient combination of processes

In some cases, a big problem is that processes are not very well combined and integrated. Too often, product information and the buying itself must take place in different locations. The information needed is not given at the place of interest or conversely, the information is useful but the buying itself cannot take place at the same location. For example, it is possible to get informed about a property at the internet, but this information is not given mobile at the time, the customer is standing in front of the interesting object. But information sometimes has to be given mobile and it is not sufficient to present the information only at a stationery point. Continuous process chains are a real customer requirement. If a transaction takes

place via the internet, it is difficult to get the commodities to the buyer. Sensible solutions for the big logistical problems must be found as well.

2.4 Information flow

Today, people are over stimulated with the mass of presented information, especially on the internet. They no longer handle the information flow, and therefore they are often helpless when it comes to finding the necessary information. Applications have to be implemented to organize and structure information for the personal profile of a customer. This is the main - and of course the biggest challenge - to make future services attractive to users.

2.5 Overcharging because of the vast number of new techniques

Today, the time it takes to replace a technique with a newer one is very short. A lot of sensible new techniques are implemented as well. For the average end-user this means that he has to learn many techniques in a very short period of time. As soon as he gets used to one, a better solution is presented. The result is the overcharging of the consumer. The effect of the overcharging is that the user develops reactance against new technologies. Passiveness and abandonment of new solutions may follow.

Therefore if new products and services are to be placed on the market, the intuitive and easy handling of the technique is an absolute must for success.

Even if the technical base is shifting, the look and feel and navigation must shift smoothly.

3 Examples for future fields of work

In this chapter examples for future fields of work which are currently required most by consumers are given. They have been identified by several studies and own field research including questionnaires, focus groups, expert interviews etc.

3.1 The personnel access

The easy, ubiquitous and permanent availability of a service – independent from place and time – has to be guaranteed. Central aspects according to this are identification, individualization and convenience of the usage. So isolated solutions should be combined like a “multipass”. A “multipass”, which integrates personal data and combines this with different helpful functions such as passport, payment, driving license, and insurance data may be a possible future approach. An aim is to realize permanent and usable solutions, suitable for all kind of equipment. The identification of the usage must be as easy as possible – new biometrical standards should be taken into account. The storage of personal data and the creation of a personal profile are very important, so that individualized offers and solutions can be presented to the consumer.

The next steps in research and development will be to define all sensible and necessary components as well as to specify a suitable medium in which to guarantee a unique usability in every case of access.

3.2 Specialized Net-Agents

Net-Agents can be used in order to check and edit information. Other tasks like getting in contact or negotiating may follow. Because of the task-specified orientation, this will raise the effectiveness as well as helps to reduce the efforts to be initialized by the user. Net agents could be very useful because the consumer is no longer able to handle today's information flow. So a net agent can overtake a persons' routine tasks.

Thus, net-agents mean to be an individual applicable service, which can operate collaboratively with other agents. They can assume tasks of the users like acquiring and collecting offers according to a specific request and therefore they enable the transfer from precasted to open information structures.

3.3 Market structures

Contractors:

The anticipation of the common structures of markets is most significant for the question of which arrangements and instruments should be organized to receive a constant high presence in the market. Today, the aim is to be presented in various and specialized market places – actual disposability of information and services in useful and predefined structures. To this end, contractors are building alliances more and more in order to offer specific combinations in topics and industries.

A possibility for the future is to understand all disposable information and services as a market place – so as one information net again– on which, driven by the consumer side, a permanent flow of individually combined offers will be generated.

Trust-Center and Mediators:

A good positioning of specialized mediators is expected due to the rising transaction costs for sellers and customers and the wish for neutral information editors in order to reduce the processes. Thereby, a trust center can also adopt specific types of warranty or a legal collateral for the processes.

4 Summary

Considering all future consumer trends and today's problems, some comprehensive requirements should be respected for the success of future techniques and services as well:

Legal and technical safety, standardization, acceptance and simplicity of the solution are requirements and necessary demands for a successful implementation of all future solutions.

As future fields of application, all services which help to be more flexible, mobile and to save time, will be successful - best case in an easy and entertaining way. First, services which helps the older generation to communicate and to support their daily-life will have great potential for success. The wish for life-long learning plays an important role for this group as well. Second, all services must be very convenient. Also infotainment is one of the key factors for success in the future.

The identified trends and fields of work play a very important role in research as well as in daily business. These aspects collude time and time again, but can also be pushed apart particularly because of their high complexity.



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