The Importance of Cultural Adaptation of B2C E-Services Design in Germany

Rasha Alhendawi, Kyrill Meyer

Abstract—This research will give the introductory ideas for cultural adaption of B2C E-Service design in Germany. By the intense competition of E-Service development, many companies have realized the importance of understanding the emotional and cultural characteristics of their customers. Ignoring customers' needs and requirements throughout the E-Service design can lead to faults, mistakes, and gaps. The term of E-Service usability now is changed not only to develop high quality E-Services, but also to be extended to include customer satisfaction and provide for them to feel local.

Keywords—Human Computer Interaction (HCI), Usability, Cultural usability, E-Services, Business-to-Consumer (B2C), E-Services

I. INTRODUCTION

WITH the rapid developed of services promotion channels, many electronic business services have been delivered through the internet (E-Services), e.g. online flight booking, shopping and buying products, health insurance, government transactions, and online banking. Nowadays, E-services may be delivered in one of many forms: (1) As a Web-site embedded service, (2) as a Web Application back-end, (3) as a packaged solution comprising multiple outsourced E-services, or (4) as a portfolio of related services delivered on a metered basis [1].

The role of the company websites is not limited only to push information to their customers, or to provide them with a products and services catalog, but also to give them a suitable environment for conduct transactions.

It is important to understand the needs for the different sides (business and end customer), as always the websites are designed from developers (organization – centered design) view not from customers view (customer – centered design), and both of them have a different goals. Sometimes the E-Services designer is not the end user anymore and that the users' context, including social and cultural factors, is distinctively different from that of the designer. The current situation suggests it is now normal to design IT products for users in other cultural contexts, and the cultural gap between designers and users growing larger [15]. Customers' needs and requirements are different; as they have different cultures, speak different languages, and they have different needs, habits and different thinking. Most service development research has concluded that localizing E-Services to a locally appointed or targeted community attracts and retains more service users, and thus today the emphasis has become on designing a usable service and localizing it to a specific groups of users.

II. PROBLEM STATEMENT AND MOTIVATION

The global retail industry turnover generated by social networks will reach EUR 30 billion by 2015. This means that social commerce will not function as an autonomous shopping channel in the near future, but will instead be an indispensable part of a multichannel strategy, such as a marketing and communication channel, which emphasizes the need for attention to the social aspect of the E-Service design, including the understanding of the customers' culture norms and diversity.

Thinking of this type of research is important for some issues:

1. Current E-Services may not be usable for all types of potential customers in Germany.
2. Graphic and design elements may be offensive and should be carefully considered during the e- Service design stage. (E-Service must give a "local" feel).
3. E-Services should reflect the acceptable cultural norms of customers in Germany.
4. Lack of localization and culture adapted guidelines or models that can help e-Service designers.

III. WHY DO WE NEED E-SERVICE LOCALIZATION?

The Localization Industry Standards Association, an international association established in 1990 states: "Localization is the process of modifying products or services to account for differences in distinct markets", to make it accessible, usable, understandable, and culturally suitable for target audiences and to give the "look and feel" of the services [2]-[4].

The localization process is divided into three main levels:

1. Linguistic level : includes language translation, software source code, database content, and adapting e-Service technical aspects such as dates, time, currency formats, addresses, measurements, weights, punctuation, and so on [15]. This may be used in the early stages of the localization process.
2. Cultural level: this cultural adaptation includes adjusting graphics, visual elements, images, terminologies, metaphors, colors and all cultural aspects of certain audience groups. This paper is bringing the second level into focus.

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3. Technical level: aims at redesigning the current e-Service to be more culturally usable, by changing the current e-Service components that included in the two previous levels.

E-Services should accommodate this diversity in order to be effective, successful, and satisfy the following issues [15]:

1. Trust: "Lack of trust is one of the most frequently cited reasons for consumers not purchasing from Internet vendors" [2]. Related to cultural differences as proposed by Hofstede [16], E-Service "customers are expected to be more trustful of a local website that matches their cultural needs and preferences than that of a foreign.

2. Satisfaction: relates to all the e-Service qualities that induce customers to remain at the e-Service rather than move to another one [15].

3. Loyalty: E-Service customer will be more loyal to localized services that match their cultural needs and preferences [15], [5]. However, current localization practices have not been very successful yet. The lack of a broad and dynamic understanding of culture is one of the major problems hurting localization practices.

IV. CULTURAL DIMENSIONS FOR THE GERMAN SOCIETY

Culture was defined as "the collective programming of the mind which distinguishes the members of one group from people from another" [7], in general it is "all the knowledge and values shared, and favored by a social group at a particular time and place, and transferred from generation to another".

Important work in defining cultural dimensions has been undertaken by [6]-[15],but Geert Hofstede's[1] [7] model has become the most influential [2], and has been adapted to many fields; studies of global internet use [2], website design [16], analyzing consumer behavior [17], gender role portraying in advertising [25], mobile interface design [26], and ethics [27].

Geert Hofstede [7] conducted a survey of IBM employees in 40 different countries and proposed a model that entailed five dimensions, his survey results for Germany shows that:

1. Power Distance (PD): the extent to which less powerful members expect and accept unequal power distribution within a culture. The German society is not surprisingly among the lower power distant countries (score 35). Participative communication, Meeting style, highly decentralized, Co-determination rights, control is disliked and leadership is challenged to show expertise and best accepted when it's based on it.

2. Individualism vs. Collectivism (IC): the role of the individual and group, and is characterized by the level of ties between an individual in a society. The German society is a truly individualistic one (score 67). Small families with a focus on the parent-children relationship rather than aunts and uncles are most common, and there is a strong belief in the ideal of self-actualization [7].

Loyalty is based on personal preferences for people as well as a sense of duty and responsibility. Communication is among the most direct in the world following the ideal to be "honest, even if it hurts" and by this giving the counterpart a fair chance to learn from mistakes.

3. Masculinity vs. Femininity (MF): gender roles, as opposed to physical characteristics, and is commonly characterized by the levels of assertiveness or tenderness in the user. The German society is considered a masculine society with (score 66), high competition, achievement, success, a value system that starts in school and continues throughout organizational behavior, performance is highly valued, People rather "live in order to work" and draw a lot of self-esteem from their tasks. Managers are expected to be decisive and assertive.

4. Uncertainty Avoidance (UA): the way in which people cope with uncertainty and risk. Germany is among the high uncertainty avoidant countries (score 65). Needing for important details, and structural situation in their life.

5. Time Orientation (TO): related to the choice of focus for people's efforts: the future or the present and past. The German society is classified as long term orientation (score 31), focusing on the planning for oriented towards future work, perseverance and thrift, large savings, funds available for investment, fast economic growth of countries up till a level of prosperity.

V. CULTURAL ADAPTION OF B2C E-SERVICES DESIGN

"E-Services are internet-based applications that involve a series of parallel executed transactions performed by e-service providers as they locate, negotiate, and handle requests from each other" [19].

E-Services can be classified into three categories [19] related to the type of the end product that the e-service primarily supports:

1. Physical: The primary product-process supported by the E-service is a physical good, and the service itself is concerned with its assembly, design, aggregation, or delivery. For example, DHL's package tracking services [19].

2. Digital: The primary end product delivered by the e-service is a digital information product which products are assembled digital goods that exist primarily in electronic form [18]. For example MP3.com and E-music.com's service.

3. Pure Service: The end product for some services is neither a packaged information product nor a physical artifact, which combine between digital and physical characteristic, For example Microsoft's MSN Messenger and Online's instant messenger that allow consumers to chat in real time while they are bombarded with advertising[19].

To understand the nature of E-Services, we should be able to understand the distinguishing features of three similar terms, goods, services, and E-Services as shown in Table I [22]. From another side, services can be classified according to two dimensions as shown in Fig. 1, the first is the degree of

digitization that the services could be digitized or not [22], and the second is the ability of the services for co-creation that include both the marketers and the customer interacting in aspects of the design, production, and consumption of the services [22], [23].

Business-to-Consumer (B2C) E-Services could also be called Business-to-Customer (B2C), as this type of services finally is directed to the end customer [24].

Referring to [28], 79% of the population in the German society is older than 14 years, which led to increased use of internet between customers from 15 – 29 year old, and this category has the active internet consumer group.

The most services have been delivered by online shopping or by internet delivery in 2014 were product categories for jewelry, watches, furniture and decorations apparel, textiles, shoes, garden, and flowers, but the highest sales was for digital goods and services such as travel packages, event tickets, as well as downloads.

TABLE I
DISTINGUISHING FEATURES OF GOODS, E-SERVICES AND SERVICES

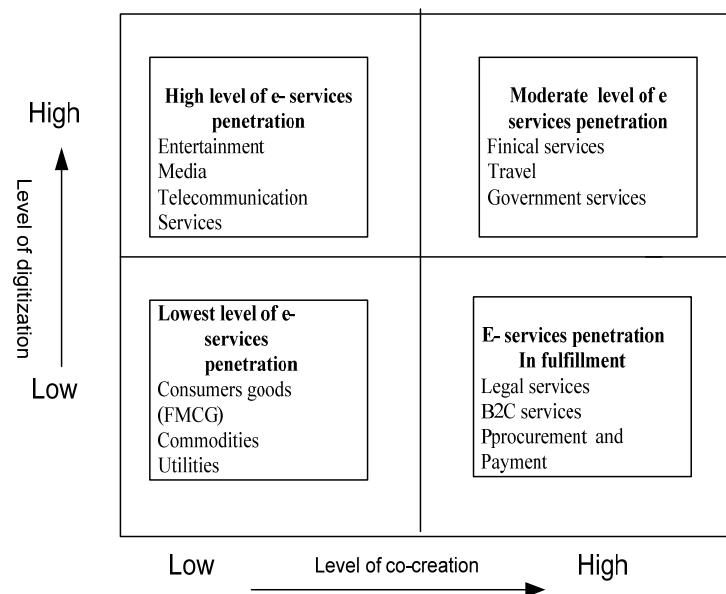| Feature	Goods	E-Services	Services
Tangible	Yes	No	No
Can be inventoried	Yes	Yes	No
Separable consumption	Yes	Yes	No
Can be patented	Yes	Yes	No
Homogeneous	Yes	Yes	No
Easy to price	Yes	No	No
Can be copied	No	Yes	No
Can be shared	No	Yes	No
Use equals consumption	Yes	No	Yes
Based on atoms	Yes	No	Yes

Fig. 1 Service classification

"E-Service Design is a new holistic, multi-disciplinary, field. It helps to either innovate or improve E-services to make them more useful, usable, desirable for customers, as well as more efficient and effective for organizations" [20]-[22]. E-services could be embedded through a website, with the focusing on some of the common user interface design components that have been suggested by Marcus[2] [15] which including information visualization and presentation, for successful Web-based services [16], user interface design components include:

1. Metaphors: essential concepts in words, images, icons and sounds that are used to give a clear understanding for the services.
2. Mental Model: the organization of the data that clarify the service.

3. Navigation: the movement through mental model
4. Interaction: the degree of the user interaction with the services
5. Appearance: tactile perceptual characteristics of the display such as visuals, audio, style, them and colors.

Marcus gives a clear and comprehensive understanding for Hofstede's cultural dimensions as well as a good mapping for the user interface design components with the five cultural dimensions. Table II represents the mapping between each cultural factors with the user interface design with detailed declaration of how the E-Services design should be according to the cultural characteristics for customers in Germany, and aiming to redesign and localize the E-Services according customers characteristics and requiems.

The cultural adaptation of B2C E-Services includes adjusting graphics, visual elements, images, terminologies, metaphors, colors and all cultural aspects of a certain audience

[2]Aaron Marcus is an American user-interface and information-visualization designer, as well as a computer graphics.

and customers groups that use B2C E-Services embedded through a website.

TABLE II
MAPPING CULTURAL DIMENSIONS TO USER INTERFACE DESIGN COMPONENTS

Metaphors	PD	IC	MF	UA	TO
	Symbols of power with clear hierarchy such as (CEOs and employees , and important people in the company) or equality	Indications to individuals or groups.	Indicate to competition, hard work, and earning or cuteness, and relationships	Familiar icons, avoiding stranger, and unpopular icons or Unfamiliar, unusual, unpopular icons tend to abstractions.	Expressing of long and stable relations such as family or work team or interchangeable roles, jobs, and objects
Mental model	Reference data with no relevancy ranking or less structured with relevancy.	Data organized, classified according to different type of users or to all. Chunk information by task or Chunk information by modular	Clearly stated vision, mission and goals of the organization, focused on truth and certainty of beliefs (Rules as a source of information & credibility)or Emphasize on social structures; details, and relationships rather than goals.	Simple, clear and detailed articulation; limited choices or Abstract articulation, complexity, unlimited choices.	Emphasize on love and devotion, social coherence, responsibility, and support or social incoherence, irresponsibility, and efficiency.
Navigation	Restricted and high structured access, choices, authentication, passwords, and prescribed routes or open access, multiple options, and sharable paths.	Data access through a unique individual path or multiple.	Limited choices, unique tasking, oriented to exploration & control or Multiple choices; multi-tasking.	Limited options, simple, limited controls, and limited operations (navigation schemes prevent user form lost), Include customer service, navigation local stores, local terms, free trial, and download or Multiple options, varying, complex controls, and unlimited operations.	Tolerance for long paths, ambiguity; contemplation-oriented or Tolerance for short paths, clearness, quick results, and action-oriented
Interaction	Severe error messages, wizards or guides lead usage or website map, leading wizards.	Search results are customizable for individual's interests or for all. - family theme, clubs or chatrooms - Customer loyalty programs, company credit cards for local country, special membership programs, newsletter – online subscriptions, magazines, and newsletters.	Interaction with website need professionalism and special skills	Precise, complete, detailed input and feedback of status or General, limited, or ambiguous input and feedback of status customer service – FAQs, customer service option, customer help, or customer service e-mails;	Preference for face to face communication, more links to people, live chats, personalized messages, interaction as asking or Distance communication accepted as more efficient, anonymous messages tolerated.
Appearance	Images of leaders, nations, official music, anthems; formal speech or people, daily activities; popular music.	Images refer to individuals or to groups	Images and pictures of men and women are addressed separately or together, using masculine colors, shapes, sounds.	Images, icons, and colors are simple, clear, and highly redundant (tradition theme) or they are varied, ambiguous, and less consistent.	Cultural markers: Flags, colors, national images, warm, fuzzy images or Minimal and focused images, concentration on showing tasks or products.

VI. E-SERVICE DESIGN CHALLENGE

1. The overlap between the design of the E-Service and the design of the web applications, while sometime the service will be embedded inside.
2. Many usability assessment and evaluation approaches are derivative basically from software and web engineering, and not basically directed to E-service usability assessments.
3. Usability assessment approach considers the usability as subfactor for the quality factors.
4. The difficulty to understanding the cultural factors and mapping them to E-service design.

VII. CONCLUSION

It is important to merge both the technical and the human side through the e-Service design process, in order to produce the most usable adapted e-Service for customers, and to win their loyalty, satisfaction, and devotion.

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