



# Experience Design and Positive Design as an alternative to classical human factors approaches

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**Abstract.** The classical human factors approach of designing for demanding work environments is to design for optimal task support, reduction of stressful conditions, and eliminating usability problems. Following experience design and positive design we investigated the feasibility of increased positive experiences for users in such environments. Two interaction concepts for field sales personnel were developed to show that it is possible design for positive social relationships to customers and for gratitude for contributions in customer relationship management systems. Possible positive consequences of these interaction design concepts are discussed.

## 1 Introduction

This study is about field sales personnel selling tools and materials to craftsmen by visiting them. This is a very demanding work environment because: (1) In most cases sales personnel are non-experts in the field of knowledge of their customers. The craftsmen are always more competent, because sales people tend to supply different craft businesses (e.g. painters, drywall installers, plumbers). (2) Their customers often feel disturbed in their work and are annoyed when they are being visited. (3) Many sales companies put a lot of pressure on the sales personnel by setting strict, often hard to reach sales targets. This is worsened by the increasing number of alternatives open to customers (especially online and hardware stores) and the fact that most customers buy products from several sales companies. (4) Sales personnel have many appointments per day and have to drive over long distances by car. (5) An important success factor for selling products is a positive social relationship to customers. This is in contradiction with the negative attitude of many customers and the stress inducing work conditions. Sales work is emotion work [1]. (6) Sales personnel are using product catalogues with 200.000 to 400.000 products. Some are still using printed catalogues and some

digital catalogues on tablet PCs. Digital catalogues are often nothing more than PDF files or simple applications providing search functionality. Both catalogue solutions are difficult to handle and do not support presenting of related products or special offers. The conclusion is, that the environments field sales work in are mentally demanding because of the juxtaposition of stressful work conditions (time and success pressure, missing knowledge, insufficient tools, and difficult customers) and the task to set up positive and lasting relationship with their customers. An indicator of the demanding work environment is the high fluctuation of employees.

The question is, whether it is possible to design applications to support the field sales force. The traditional approach of design for good usability would be to analyse the context of use, including user characteristics, task structure and environmental requirements [2]. Of course, this is a basic way of designing applications for work contexts and ensures that technology is designed according to the requirements of tasks and work environment. As Desmet and Hassenzahl propose, the inherent notion is to design technology as a problem solver and call it “problem-driven design” [3]. As is, this approach is not amiss, but the focus is on avoiding or neutralising the negative and misses possibilities to design for positive experiences (“possibility-driven design”, [3]). Taking the idea of good design even further, research on user experience focuses on positive emotional experiences when interacting with software. Therefore, our research question was, whether it is possible to design for optimal task support with a clear focus on the design for positive emotional experiences in this demanding and stressful work context.

## 2 Theoretical aspects and related work

Steger and Dik [4, p. 131] point out that work affects how we understand our lives and our environment. Technology is an integral part of most modern jobs, therefore designing for positive user experience of that technology might contribute to more fulfilling work environments. Outside of work environments, the experience of technology and its contribution to well-being (e.g. Positive Design [5]) has been explored repeatedly,

Hassenzahl [6, p. 12] defines User Experience (UX) as “as a momentary, primarily evaluative feeling (good-bad) while interacting with a product or service. Good UX is the consequence of fulfilling the human needs for autonomy, competency, stimulation (self-oriented), relatedness, and popularity (others-oriented) through interacting with the product or service (i.e., hedonic quality).” A positive experience through and with the use of technology thus emerges from designing according to psychological needs. A

second approach is followed by Desmet and Pohlmeier with their framework of Positive Design [7]. It has the potential to contribute to subjective well-being by addressing three different domains: Pleasure, personal significance and virtue or all three of them. Positive Design is based on the theory of Positive Psychology [8] which investigates what aspects contribute to a positive emotional state and defines strategies to achieve it ([9], [10]).

Similarly, positive UX may contribute to positive changes in work contexts [11], [12]. Kohler and colleagues, for example, demonstrated that giving a simple feedback about achieving subgoals of a task increased UX and heightens motivation [13].

## 3 Concepts for software design for positive user experience

### 3.1 Research question and methodology

Here we asked, whether it is possible to design a catalogue system which facilitates positive emotional experiences by improving search for products and presentation of related products. The lack of domain knowledge of the sales staff should be compensated. Sales staff should experience competency during the sales pitch. In addition possibilities for positive UX should be implemented in a customer relationship management system (CRM) for sales staff in the field.

We applied a design process for positive UX [14]. It consists of the following activities: analysing the work context, collecting existing positive experiences using experience interviews, designing user experience concepts based on interview insights and design strategies of experience design [15] and positive design [7], followed by prototyping of the experience concepts, as well as, evaluating them with a focus on analysing positive and negative experiences [14], [16].

### 3.2 Experience interviews

Experience interviews are in-depth interviews probing for positive experiences in the work contexts. Semi-structured interviews were conducted face to face or via telephone: Participants were asked to describe their daily routine, such as customer meetings, and the usage of artefacts like catalogues and software. After that the social relationship between the participant and others were discussed. Finally participants were asked to report positive experiences in the context of work, in other words situations when they felt happy and fulfilled.

Experiences included those independent of as well as linked to technology were explored deeper, using the laddering-technique [17].

Seven male sales representatives, working in the following different companies and sectors, participated in the interviews. The interviews showed, that sales related jobs can differ vastly. We specifically chose both positive and negative work contexts to gain a better understanding of the heterogeneity of the field. The concepts we developed based on these interviews were, however, specifically aimed at those working in the emotionally more demanding settings. A short description of the different organisational cultures derived from the interviews is given:

- A sports car manufacturer: The corporate culture was described as cooperative. Every salesman is assigned to a territory and works on commission basis. Sales representatives are encouraged to build trust-based and long-term relationships. Closer relationships, however, are regulated through the company's code of conduct.
- A humidifier manufacturer and industrial humidification specialist: The corporate culture was described as professional. Every salesman is assigned to a territory and while they earn a base salary, commissions are still an important factor. Relationships with customers were characterized as business related.
- A regional heating construction company with a network of 1100 companies: The corporate culture was described as interpersonal. Salesmen earn a base salary and if the targeted sales figures were achieved, they receive a share of the turnover. Salesmen are encouraged to strive for positive and friendly relationships.
- A regional trading company in the fields of tools, hardware, assembly technology, and workwear: The corporate culture was described as cooperative. Salesmen earn a fixed salary. The interviewees reported building positive and friendly relationships with customers.
- A large trading group focusing in fixing and assembly technology: The corporate culture was described as competitive, with the company striving to enhance customer relationships. Therefore, each sales representative tends to work with the same customers. While salesmen earn a base salary, their pay is also linked to commissions.

The gathered anecdotes were analysed to discover factors, which affect their lives positively, while finding common structures of positive experiences.

After a qualitative content analysis, we elicited the following positive aspects and experiences: Sales representatives enjoy the wide independence and freedom when planning their own daily routine (3 participants (p)). It is

exciting for them to deal with the rich variety of different tasks, situations, and customers of different industrial sectors (3 p). A good customer relationship is beneficial for achieving success, but it is also pleasant in itself. Sales representatives describe themselves as extrovert and communicative, and they report that they get positively excited by the contact to their customers. A very important type of experience is that they enjoy supporting their customers in their projects (6 p). Several situations were mentioned as leading to a feeling of success: the sales representative provided a solution or solved a problem (6 p), closed a sale (6 p), increased the sales (5 p), satisfied the customer and earned gratitude for his effort (5 p). The personal relationship between the sales representative and the customer was also mentioned as pleasant - they talk often about private issues or hobbies and in doing so they can establish a good relationship over time (7 p).

### 3.3 Interaction Design Concepts for supporting positive experiences

One of the tools used by the sales personnel is a customer relationship management system (CRM). The idea is, that the information concerning customers is stored there and available to the entire sales team. The CRM passes helpful information (business and personal information) to colleagues. Especially personal information supports communication, introduction, and small talk. Receiving helpful information might lead to a feeling of thankfulness towards the person entering this information. Inspired by the results of positive psychology that gratitude is positive for the person expressing gratitude and for the person receiving it, we designed a possibility for expressing thankfulness for helpful information. A special “that was helpful” button associated to an information input field can be used to express thankfulness. An important aspect is, that the interaction was visible only to the two users involved in order to prevent a competitive situation. Following a positive psychology approach this design has the potential to support subjective well-being and social relationships [18], [19].

The second concept is based on the experiential interview insight, that working together with the customers on their project is a very positive and satisfactory experience for the sales personnel. The concept project collage (fig. 1) offers the possibility to plan a project in co-operation between the sales person and the customer. This is done by identifying project activities and then collecting the relevant materials and tools. In fact, entering project activities starts searching the catalogue database and presents materials and tools related to project activities. The sales representative is put into the role of a moderator

for the project planning process and the customers is assigned the role of the expert for their projects and work. Furthermore, the project collage stores projects as templates, so that it is easy to set up comparable projects and refine them. This design should increase the possibility to experience competency because they are now part of the planning process with their customers. This addresses the need for a feeling of competency [20] in the interaction with customers.

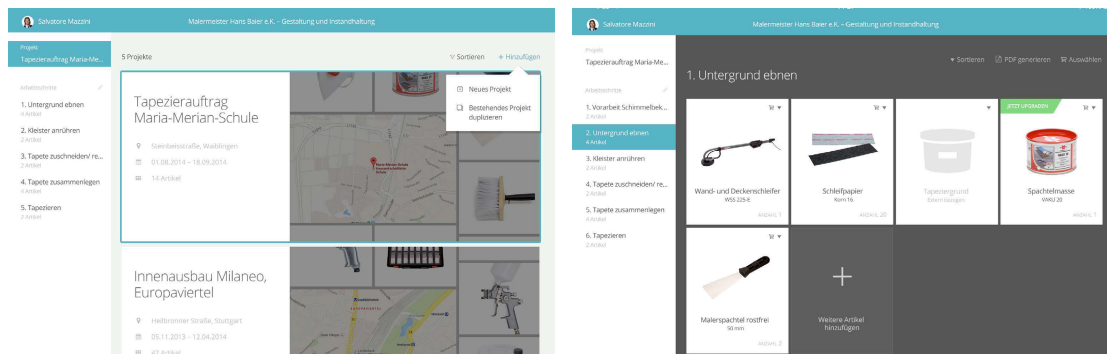


Figure 1: UX concept project collage (left: list of project templates; right: products presented to the second project activity ‘smoothing a wall’)

## 4 Discussion

The two concepts demonstrate that it is possible to design for positive emotional experiences in a very demanding work environment supporting the fulfilment of psychological needs and using strategies for well-being.

These concepts are currently under empirical evaluation. A problem here is the problematic access to this special user group causing research delays.

Research of positive psychology at work showed that supporting social interactions with customers [20] and gratitude [18], [19] are a source for positive experiences. According to the broaden and build theory [21], positive emotional experiences have several positive effects like increased engagement and optimism, developing of competences and social relationships, more flexible thinking, acting and problem solving, as well as reducing the effects of negative experiences and increasing resilience.

The next step in our research will be evaluating whether the concepts generate positive experience during interaction. After that the positive consequences for work in demanding work environment and the interaction with digital tools can be investigated.

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