INTERNATIONAL CONFERENCE ON ENGINEERING AND PRODUCT DESIGN EDUCATION 6 & 7 SEPTEMBER 2018, DYSON SCHOOL OF DESIGN ENGINEERING, IMPERIAL COLLEGE, LONDON, UNITED KINGDOM

BRANDED HEALTHCARE INNOVATIONS, EXPERIENCES FROM A SERVICE DESIGN WORKSHOP

Wouter EGGINK and Maaike MULDER-NIJKAMP

Industrial Design Engineering, Faculty of Engineering Technology, University of Twente

ABSTRACT

Now that there is an expanding market for design skills into the field of service design and at the same time 'products' become ever more intangible, it becomes relevant to teach and explore this part of the discipline. At the same time, one can ask the question whether the principles of design are so fundamentally different when applied to intangible services instead of tangible products. For this paper we explored these topics with a group of eighteen third-year students of Industrial Design in a one week workshop setting. Divided in five groups the students developed branded healthcare services, supported by a range of both intuitive and more structured design techniques that were meant for developing innovative product concepts and tangible brand extensions. Based on the design results and the written student reflections we can conclude that the proposed design techniques were largely as effective in supporting the development of the branded healthcare services as they were in our previous experiences with more traditional products.

Keywords: Service Design, Innovation, Creativity, Brand Design, Disruptive Images

1 INTRODUCTION

What would happen if Google were to enter the healthcare market? What could it mean if Virgin Atlantic started a medicine delivery service? Now that there is an expanding market for design skills into the field of service design and at the same time 'products' become ever more intangible, it becomes relevant to explore this part of the discipline. At the same time, one can ask the question whether the principles of design are affected anyway when applied to intangible services [1] instead of tangible products. So we asked ourselves whether this would have consequences for what we should teach our students and how. In this paper we want to investigate if the models which were actually developed for creating more conventional product designs, will also be helpful for designing product services. Furthermore we want to look at the role of the brand in branded healthcare services and if the addition of a service component [2] leads to a different way of using the developed tools. We explored these questions in a one week workshop with a group of Industrial Design students. In this paper we will briefly present the methodologies used in the design workshop and evaluate the design results. We will then reflect on the usability of the design techniques for service design, based on the analysis of the final results and the written student evaluations.

2 WORKSHOP

During the workshop of one week, students worked on a project in groups of three or four, following their own specific assignment, based on the general objective "to design a branded healthcare service for contemporary society". In the workshop we tested several design techniques that we developed for 'traditional' product design, targeted at creativity and branding. These were respectively: defining the design challenge based on discussing statements [3], stimulating creativity in concept ideas through Disruptive Images [4], and designing for brand extensions [5]. We set up the workshop week as project oriented education, where the instructional modes, exercises and theory of the design techniques were directly followed by the application in the students' own projects [6]. Furthermore we wanted to make the results more tangible by letting them present the outcomes via physical concept boards [7]. During the week, the students were guided in their development process by the chosen set

of design techniques. Part of these were adapted from existing techniques and others we developed ourselves before. During the workshop we applied two basic approaches: more intuitive tools and more structured tools [8]. The schedule of the workweek was based on practicing with the more intuitive tools at the beginning of the process, and structuring the process of the newly developed service innovation in the second half of the workshop by connecting it to an existing brand (figure 1). In our opinion this way of approaching the process could break open the normal way of thinking to create really innovative 'out-of-the-box' ideas in the first place, and then structure the innovative 'chaos' again to make the concepts plausible and acceptable [9]. The structuring process was in this case reinforced by adding the recognizable characteristics of a brand to create more acceptable brand extensions [5, 10]. Our expectations were that this set up would let the students explore the possibilities and foster their imagination in the beginning of the process, while in a later stadium the brand would give them support to make the newly developed ideas more concrete. In the following sections the two different approaches are explained in more detail.

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
PLENARY SESSION	WORKSHOP BODY STORMING & SCENARIO DESIGN	WORKSHOP ANALYSING BRANDS	DESIGN OF SCENARIO ELEMENTS	PREPERATION EXHIBITION
BRAINSTORM & WORKSHOP DISRUPTIVE IMAGES RESULT VISUAL ESSAY	WORKSHOP CONCEPT BOARDS RESULT PRESENT SCENARIO'S	REDESIGN OF SCENARIO BASED ON BRAND RESULT BRANDED SCENARIO'S	PROTOTYPING OF SELECTED SCERNARIO ELEMENTS RESULT CONCEPTBOARDS	EXHIBITION & DRINKS

Figure 1. Set up of the workshop week with more intuition oriented approaches (orange) and more structured approaches (purple)

2.1 Intuitive tools

We started the week with several exercises to further explore the design challenge. We prepared several statements that addressed issues within the general objective. The student groups could then choose one of the statements according to their specific interest and start discussing. The statements chosen by the five student groups were: "The world becomes smaller, when one gets older and older", "Hospitals are by far not cosy enough to be able to heal people", "Contemporary people do not have time to go to the doctor", "We want to do more and more sports in less and less time", and "Technology will make home care very impersonal". The statements were meant to be little provoking to stimulate the discussion and entice more extreme positions [3]. After an hour of discussion and some brainstorming with mind maps the students were asked to visualize their positions with the aid of the Disruptive Images technique (figure 2).



Figure 2. Examples from the Disruptive Images technique: upgrading your hospital room like the SIMS (left) and scanning yourself at home for the DIY doctor (right)

In earlier work on the combination of creativity and meaning in design [11] we found out that this technique is particularly suited for Design Driven innovation [12]. It is based on the practice of the

Surrealists to combine all sorts of non-matching objects and images in their artworks, provoking new perspectives in design [13]. In practice this means that the students had to express their initial thoughts about the chosen issue with collage-like images. These early visualizations also force to make initial thoughts more concrete and help to communicate ideas [4].

At the end of the first day of the workshop the students had to select their best Disruptive Images and put them in a short presentation or visual essay [14], presenting their particular design challenge. The statement on doing sports in less time was for instance developed into the challenge to "design a service that lets you sport at home, but still together with friends". At the second day, the students had to explore their design challenge with body-storming and make concrete user scenarios from there. The groups then had to present their scenarios with concept boards at the end of the afternoon (figure 3). The statement about less time to go to the doctor was for instance developed into a mobile phone app with online doctor assistance, supported by a little toolkit for home diagnostics (figure 3, right).





Figure 3. Examples of concept boards from the first generation, explaining the service concepts: virtual reality exercising together (left) and the Do-It-Yourself doctor (right)

2.2 Structured tools

The second half of the workshop week was dedicated to the development of the service concepts into branded service concepts. For this, we introduced the students into brand recognition theory and let them work with techniques for designing for brand extensions [5]. This technique requires them to first of all make a thorough analysis of the brand by analysing the products, website and other activities of the brand. Via a structured analysis the students will come up with a visual overview of the brand connecting the explicit and implicit characteristics of the brand [15] and finally summarize the three main core values of the brand. Especially the connection of the core values and the current product portfolio of the brand is an important learning objective of this tool. After that the students were asked to redesign the scenario based on the analysis of the brand. At the end of the day the students needed to present the branded scenarios.

3 DESIGN RESULTS

A total of eighteen (nine male/nine female) third-year students from the Industrial Design Programme of the University of Antwerp participated in the workshop, divided in five self-chosen project groups. The students presented amongst others concepts for an entertainment service in care homes for the elderly, a do-it-yourself disease diagnosis service, and a meeting service for neighbourhood inhabitants. All the concepts were developed to meet a chosen brand image, so for instance the meeting service was supposed to be initiated by Douwe Egberts Coffee (D&E) and the entertainment service for the elderly incorporated an adapted BMW Mini in the care home.

During the evaluation of the design results we discovered that the students integrated the brands with the newly developed services in different ways. The group of Douwe Egberts found that the brand is besides focusing on the heritage of the brand 'being a master blender' also focusing on connecting people. They stimulate for example the national neighbour day. The connection with the core values of the brand helped them to 'familiarize' the newly developed community service into a more recognizable service that also matched the scenario. The students used the brand as a direct connection between the new service and the environment, where the activity of drinking coffee really worked as a connecting element (bridge) to make the new service more acceptable. They also implemented the brand image directly by showing the logo and by adding the slogan 'cup of (D&E) coffee?' (figure 4).





Figure 4. Two of the design results presented in the final concept boards: the "Cup of Coffee?" community service (left) and the "Capsule" DIY doctor service (right)

The group of Mini (figure 5) used the more explicit characteristics of the brand as a way to enhance the experience of meeting other elderly people by using the physical presence of a car. In the first concept the elderly were supposed to meet at an impersonal, typical 'information column' (visible in the lower left corner of the concept board in figure 5, left). The youthful and audacious character of the brand was then integrated in the brand-service combination by giving users the experience of meeting in a real Mini car, where the elderly could virtually drive together to new daring locations (or on the contrary to more familiar ones, for instance to show each other the places where they used to live). In this way, the group combined the explicit and implicit characteristics of the brand together to enhance the user experience.





Figure 5. Concept boards of the 'doing things together' service for the elderly care home before (left) and after the branding exercise (right)

The group of the DIY doctor service combined their concept with the cosmetics brand Rituals (figure 3 & 4). They then focused on integrating the experience of the brand without actually using the brand name. They designed a system called 'Capsule' which was based on both explicit characteristics (the design of a luxury cosmetics-like jar with wooden lid instead of a standard medicine box) and implicit characteristics of the brand (the ritual experience of opening the jar with medicines of the highest quality). In this way the brand is used as a catalyst for enhancing the experience in both explicit and implicit way, which leads to concepts that approach the user interaction on different levels.

4 EVALUATION

For evaluation of the workshop, we asked the students to write a short reflection based on five questions. In the answers to the first question; "which parts were new to you?", the Disruptive Images technique and the concept boards were named by twelve of the 18 respondents (67%). Working with a specific brand was mentioned by five respondents (28%). Apparently most of the students were more

or less familiar with designing services, while only three students (17%) mentioned it here. For the second question; "which things do you expect to apply again in the future?", most students mentioned the concept boards again (61%), followed by the Disruptive Images (33%). The brand extensions methodology was only mentioned three times (17%), which was a bit disappointing. One student responded in general with "I have certainly learned things that I will use again". Remarks on the concept boards included; "they look much better than a poster", "the concept boards were visually attractive and clear", and "There was certainly added value in really making them physically, because of this we could also stick things on, or present them through a stack. With a poster this is harder to do." This indicates that making concept boards is still a valuable tool for designers, despite that it seems a bit old-fashioned in our digital arena. This is in line with Tanderup-Gade [7], who also suggested that the use of concept boards improved the alignment between different disciplines.

On the question; "did the techniques and theory fit well with the subject?", ten students (56%) responded positive, while 5 students did not answer directly. Three students called the techniques and theory "useful". One student said "Sometimes it was a bit strange because a number of techniques was clearly not meant for services but for products."

The question; "could you easily familiarize yourself with the techniques?" was answered positively by 16 of the students (89%). At the same time none of the students answered positive at the last question; "were there aspects that did not work well?". At the other hand there were a couple of remarks about aspects that were difficult or could have been better; "there could have been more advice and comments during the workshop", "it was pretty hard to bring the service and the brand together", "the (time for the) exercises were sometimes too short", and "I found the disruptive images technique interesting, but it was difficult to extract specific steps from it."

Remarkable in the written reflections were several comments about guiding versus freedom in the workshop; "Furthermore, it was very good that you were almost completely free in the development, [and] you were forced to work according to a certain line of thought", "[the techniques provided] a clear and useful step-by-step plan", and "(also) because there were few restrictions on your creativity, it went easy", however also "the freedom was a difficult aspect". Which indicates that the students liked the freedom of the project with respect to the content and expected outcomes, but at the same time liked the guidance in the activities they could perform and what steps they could take to bring the project to a satisfying result. This is in line with the theory of design expertise by Dorst [16], which indicates that less experienced designers need (and want) more methodological guidance and support [17]. With the predominantly positive reflections on the whole experience, we think that the setup of the course provided the chance to work both really intuitive and more structured. In correspondence with earlier work [18] we think that it is this balance between the two approaches which led to satisfactory results.

5 DISCUSSION

Although the five groups managed to develop interesting and rather innovative services and were positive about the workshop experience, there are limitations to the conclusions that we can take from this. In the first place, the sample group was limited and the participants were design students instead of design professionals. Also the fact that the students were able to use the proposed techniques so well could also be due to most of them being familiar with designing for services. Just five students mentioned using a brand as being new for them. However, none of them had used the comprehensive brand analysis technique before. The predominantly positive response to the techniques and the setup of the week were also influenced by the special setting. The context of the workshop week made all the students both enthusiastic and work hard. Also, our exploration was limited to the (fuzzy) frontend of the design process. On the other hand, the results were promising and the students achieved a high level of understanding in a relatively short period of time. Which in our opinion is visible in the smart integration of both the explicit and implicit brand values in the core of the presented service concepts. Not as a superficial façade, but really integrated in the service scenarios themselves.

6 CONCLUSION

Our conclusion, based on the design results and student evaluations, is that the proposed design techniques were largely effective in supporting the development of the branded healthcare services. We have also learned that for product services the usage of a brand identity is not limited to improving the aesthetics or appearance of the service, but could also enhance the user experience in both explicit

and implicit ways. Especially connecting the explicit characteristics of the brand, like the physical presence of the car, with the implicit characteristics of the core values of the brand (in this case youthful, solid and eye catcher) supported the students in designing a new service-brand product in a more elaborated way and with a better integrated user experience, than without the application of the brand.

ACKNOWLEDGEMENTS

The authors wish to thank all the students for participating in the design workshops and the University of Antwerp, Department of Product Design, for the opportunity to organize them.

REFERENCES

- [1] Zomerdijk, L.G. and C.A. Voss, Service Design for Experience-Centric Services. *Journal of Service Research*, 2010. 13(1): pp. 67-82.
- [2] Morelli, N., Designing Product/Service Systems: A Methodological Exploration. *Design Issues*, 2002. 18(3): pp. 3-17.
- [3] Eggink, W., A practical approach to product design from a philosophical perspective. In: *Proceedings of the 10th Engineering and Product Design Education International Conference*, 2008. Barcelona: Institution of Engineering Designers, Wiltshire UK. pp. 25-30.
- [4] Eggink, W., Disruptive Images: stimulating creative solutions by visualizing the design vision. In: *Proceedings of the 13th Engineering and Product Design Education Conference; Creating a better world.* 2011. London: Institution of Engineering Designers, Wiltshire UK.
- [5] Mulder-Nijkamp, M. and W. Eggink, Unravelling the secret of successful brand extension: a case study to explore consumer response. In: *Proceedings of the DMI: Academic Design Management Conference*. 2014. London: The Design Management Institute. pp. 479-504.
- [6] Ponsen, J.M. and C.T.A. Ruijter, Project oriented education: learning by doing. In: *Proceedings of the CIMEC* 2002. 2002. Enschede (the Netherlands).
- [7] Gade, U.T., Design Boards as an Alignment Tool for Cross-Disciplinarity in Engineering. In: *Proceedings of the 18th International Conference on Engineering and Product Design Education*. 2016. Aalborg (Denmark): The Design Society. pp. 380-385.
- [8] Mulder-Nijkamp, M. and J. Corremans, *Muses in Design, Inspiration Techniques for Product Formgiving*. 2016, Amsterdam: Boom.
- [9] Eggink, W., A practical approach to teaching abstract product design issues. *Journal of Engineering Design Special Issue on Design and Emotion*, 2009. 20.
- [10] Mulder-Nijkamp, M. and W. Eggink, Innovating from inside the brand: (Re)searching the optimum strategy for brand and new product innovations. In: *Proceedings of the 11th Global Brand Conference*. 2016. Bradford (UK).
- [11] Eggink, W. and T.J.L.v. Rompay, *Shake it Off; radical meaning innovation in Product Design*. Paper presented at the 5th Creativity and Innovation Management (CIM) workshop; 1-2 September; 2015. Enschede (Netherlands).
- [12] Verganti, R., Design-Driven Innovation, Changing the Rules of Competition by Radically Innovating What Things Mean. 2009, Boston, Massachusets: Harvard Business Press.
- [13] Wood, G. and T.t. Duits, *Vreemde dingen. Surrealisme en design*. 2007, Rotterdam: Museum Boymans van Beuningen.
- [14] Arthur, L. and P. Martin, Visualising Academia: How to Make Academia Attractive. In: *Proceedings of the 10th Engineering and Product Design Education International Conference*, 2008. Barcelona: Institution of Engineering Designers, Wiltshire UK. pp. 561-566.
- [15] Mulder-Nijkamp, M. and W. Eggink, Understanding the 2.5th Dimension: Modelling the Graphic Language of Products. In: *Proceedings of the 13th Engineering and Product Design Education Conference*. 2011. London: Institution of Engineering Designers, Wiltshire UK. pp. 423-428.
- [16] Dorst, K., Design research: a revolution-waiting-to-happen. In: *Proceedings of the International Association of Societies of Design Research*. 2007. Hong Kong: IASDR.
- [17] Daalhuizen, J., Method usage in design, how methods function as mental tools for designers, PhD in *Industrial Design*, 2014, Delft University of Technology, Delft.
- [18] Mulder-Nijkamp, M. and J. Corremans, Muses in Design: a Comparison of Inspiration Techniques in Product Form Giving Education. In: *Proceedings of the International Conference on Engineering and Product Design Education*. 2014. Enschede: The Design Society.