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The Fourth International Conference on Design Creativity (4th ICDC)
Atlanta, GA, November 2nd-4th, 2016

USING PERSONAS IN IDEATION WORKSHOPS

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Abstract: We show how the persona methodology can be successfully applied to promote user-centricity in short-term ideation workshops. For this research, we observed 20 teams of Swiss Small and Medium-sized Enterprises during 2.5-days standardized ideation workshops. We studied how they developed and used 81 personas as a design tool to inform their product and service development activities. We found that an iterative approach in combination with a multi-disciplinary team that combines a broad range of expertise and experiences may compensate for the limited amount of time that is available for user research in workshop settings.

Keywords: *Persona, ideation, prototyping, workshop, new product development and design*

1. Introduction

Placing the user at the centre of design is increasingly recognized as key success factor for innovation (LeRouge et al., 2013). Indeed, human-centred approaches to design seem to lead to higher innovation performance (Gruber et al., 2015). Hereby it is important that design teams focus on the user already in the early phases of new product development (e.g. LeRouge et al., 2013; Long, 2009). A common approach to do this is the creation and application of so-called *personas*. Personas are hypothetical user archetypes that promote a shared understanding of user needs throughout the process of analysis, design, development and implementation of new products, services and business models (Cooper, 1999; LeRouge et al., 2013). However, there exist little empirical research that details the persona methodology and provides evidence of its effectiveness. Therefore, the debate on the usefulness of the persona methodology is often one of "faith versus scepticism; claim versus counter-claim" (Long, 2009, p. 12). The question of effectiveness and efficiency is particularly relevant in the context of resource and time constraints, as for example in short-term ideation workshops. While the development of data-driven personas requires one to two weeks, rough assumption-based personas can be developed in a day (Pruitt & Adlin, 2006).
We investigate the potential and limitations of assumption-based personas as a design tool in short-term ideation workshops. Based on Pruitt and Adlin (2006)'s five-step persona lifecycle, we compare the creation and use of personas in ideation workshops with more common research- and resource-intensive approaches. In 20 standardized 2.5-days ideation workshops, we observed how the participants created, used and evaluated the persona tool.

2. Theoretical background

Personas are conceptual models or hypothetical archetypes of a targeted user group, but do not cover every conceivable user (LeRouge et al., 2013; Pruitt & Grudin, 2003). These hypothetical user archetypes are typically based on thorough user research and promote a shared understanding of user needs throughout the process of analysis, design, development and implementation (Cooper, 1999; Long, 2009). Despite being fictional, personas need to be developed in realistic detail (Cooper, 1999). They have several dimensions and are typically specified with names, photos, likes and dislikes, habits, backgrounds, expectations and needs (Blomquist & Arvola, 2002; LeRouge et al., 2013). Cooper (1999) argues that the more specific they are, the more effective they become. In this case, specificity relates to precision rather than accuracy (Cooper, 1999). Various visualization techniques are used to represent personas from simple sketches, through high-gloss pictures, mannequins, to role play with actors. Long (2009) finds that using pictures instead of illustrations increases their effectiveness, since designers are more likely to remember details and find it easier to build empathy for the persona.

2.1 Benefits of working with personas

In product design, personas are used to ensure that design teams keep focusing on the user, to inform the design process, to communicate user requirements and to share insights within and outside their team (Cooper, 1999; Jacobs, Dreessen, & Pierson, 2008; Long, 2009). Personas are especially helpful in the early phases of product design (Long, 2009). They help design teams to make better design decisions and communicate more effectively about users (Long, 2009; Matthews, Judge, & Whittaker, 2012). Personas should thus be made part of the design team by, for example, engaging them in role play or Q&A (Long, 2009). While Matthews et al. (2012) conclude that personas are more effective for communication than for design, Long (2009) argues that students teams who worked with personas developed products with superior usability characteristics. This shows that the discussion about the utilization and usefulness of personas is still controversial.

2.2 Challenges of working with personas

Chapman and Milham (2006) argue that there exist both methodological issues (e.g. data quality) and practical issues (e.g. selection of personas) that make the persona methodology a questionable tool for product design. Personas are often abstract, impersonal, misleading and distracting (Matthews et al., 2012). As a consequence, they do not become an integrated part of the design process in many cases (Blomquist & Arvola, 2002). It seems to be necessary for a design team to see the relationship between the data and the emerging persona in order to believe in the value of the tool (Matthews et al., 2012; Pruitt & Grudin, 2003). This indicates that those using the personas should engage in the user research and the creation of the personas themselves, even though developing and working with personas is a resource-intensive process and their creation requires considerable time and effort for data collection, analysis and documentation (Long, 2009; Pruitt & Adlin, 2006). Nevertheless, the time and effort is well spend, since Long (2009) argues that scaled-back or low-budget versions of personas might do more harm than good.

2.3 Developing and working personas

Chang et al. (2008) describe several ways of developing personas and using them during the design process. The common way of developing personas is based on the extensive work by Cooper (1999) and Pruitt and Adlin (2006). Personas should be based on sound user research that includes both quantitative data from market research as well as qualitative data from ethnographic research (Pruitt & Grudin, 2003). Design teams typically observe and interview a larger number of real users and condense those insights into an abstract representation of that particular user group (LeRouge et al., 2013). This research-driven approach reduces the risk of inventing details or relying too heavily on gut feeling (Jacobs et al., 2008).

Yet, Chang et al. (2008) note that personas are often based on the assumptions and experiences of the designers. Pruitt and Adlin (2006) refer to this type of personas as *assumption personas*.
Following the believe that personas need to be based on sound user research, Pruitt and Adlin (2006) present the persona lifecycle as a tool that helps to structure user-centred thinking along the design process. The persona lifecycle starts with *family planning*, which is followed by *conception and gestation*, *birth and maturation*, *adulthood*, and ends with *lifetime achievement and retirement* (Pruitt & Adlin, 2006). It is noteworthy that Pruitt and Adlin (2006) distinguish between the team, who develops the personas and the actual users of the personas (i.e. designers, engineers, etc.).

1. **Family planning**: This is the research and analysis phase in which a problem is identified and the resources to solve it determined. This includes the definition of the team that is working with the personas, the ensuring of the support of key individuals, the identification of relevant data sources and an initial data collection.
2. **Conception and gestation**: This is the actual persona development phase. Based on data, the team creates a set of personas that combine facts and fiction. The key challenge is to define how much fiction and storytelling is needed to make the persona real and engaging.
3. **Birth and maturation**: This phase marks the transition from persona creation to persona use. The personas are introduced to the product team (including product development, product and project management, marketing, etc.) that will use them in their design and development activities.
4. **Adulthood**: This is the key phase of the persona lifecycle. Personas help the product team to focus on user needs and make informed design and development decisions. The challenge is that the personas provide the right information to the right people at the right time.
5. **Lifetime achievement and retirement**: This is the time to have a post-mortem talk about the benefits of working with the personas. What did improve? What stayed the same? What got worse? The answers to these questions provide inputs for the next persona development effort.

Before we compare and contrast these five phases of the persona lifecycle with the application of the persona methodology during ideation workshops, we briefly present our research design.

3. Research design

3.1 Research setting

Our research was performed in an ideation space called *Mobiliar Forum Thun* in the Bernese Alps, Switzerland. Swiss Small and Medium-sized Enterprises (SMEs) can apply for 2.5-days ideation workshops, in which they work on a specific challenge that is related to their new product, service or business model development. While these ideation workshops give impetus for increasing the companies' innovation capability in the long run, they also have a threefold direct outcome: 1) the participants develop concrete new product ideas, 2) they learn about new ideation and prototyping methods, and 3) they benefit from an intense team building experience that is leading to high motivation (Heck, Al-Falou, Steinert, & Meboldt, 2014). The SMEs participate with multidisciplinary teams of 10-15 employees, who represent a broad range of functions and departments. Typically, the CEO or an alternative member of the management board participates to show the importance of the workshop for the company's future. Some companies complement their teams with external guests such as industry experts or artists, who broaden the range of perspectives and experiences. The workshop concept consists of three phases (cf. Figure 1, left). Following an iterative process, each phase consists of several input, work and presentation cycles. At the end of every iteration, the teams present the outcome to the other teams and get feedback on refinements and improvements. In the first phase ('*identifying the right questions*'), the participants explore the business environment, draw a stakeholder map, select the most relevant stakeholders, elaborate on them by creating personas (in teams of 3-5 participants), and explore the needs and pains of these personas. These insights are then summarized in a user or problem statement that provides the input for the second phase ('*identifying promising solutions*'). In this phase, the participants ideate new solutions, prototype the solutions and test

them. The third phase ('*getting things done*') includes the transition of the workshop results into an action plan and a final reflection round about the most valuable methods, the workshop concept, the ideation space, etc. (Heck, Steinert, & Meboldt, 2015). The workshops are facilitated by one of three trained moderators that slightly tailor the workshop concept to the needs of the participating company.

3.2 Data collection and analysis

We observed 20 2.5-days ideation workshops and studied how the teams developed, used and commented on personas. The 20 teams 'raised' in total 81 personas. We collected and analysed the data with three goals 1) to outline the persona development process, 2) to track the use of the personas, and 3) to capture the evaluation of the personas methodology. To achieve the first goal, we observed the participants, wrote a detailed workshop diary, took plenty of pictures, and videotaped the presentation/feedback/discussion sessions during the first workshop phase. We tracked the number of iterations (**RaisingCycles**: n=1,2,…) and their duration in order to see how much time the participants actually spent on raising their personas (**RaisingDuration**: [min.]). To achieve the second goal, we videotaped and coded the videos from the final presentations to see whether the personas survived. Personas survived if they were part of a role-play or if the solution explicitly addressed the personas' needs (**SurvivalRate**: [0-1]). To achieve the third goal, we videotaped and transcribed the participants' reflections at the end of the workshop and coded the statements that referred to the persona methodology or user-centricity in general (**Reflection**: 3-onlyPositive, 2-Positive&Negative, 1-onlyNegative, _noReference). Furthermore, we collected feedback about the workshop through a questionnaire that is send out a week after the workshop (121 respondents from 18 companies). While the questionnaire covers several aspects of the workshop such as space, moderation, methodology etc., we calculated the workshop performance according to Heck et al. (2016) based on items regarding the workshop process (workshop efficiency) and its results (workshop effectiveness) in order to assess the relationship between persona usage and workshop performance (**Performance**: [0-6]).

4. Results

This section is structured along Pruitt and Adlin's (2006) persona lifecycle to compare and contrast the development and use of personas during ideation workshops with the traditional, more research-intense approach. The first workshop phase ('*identifying the right questions*') covers the persona lifecycle phases *family planning* and *conception and gestation*. There is no equivalent for the *birth and maturation* phase in the ideation workshops. The second workshop phase ('*identifying promising solutions*') corresponds to the lifecycle phase of *adulthood*. The final workshop phase ('*getting things done*') meets the lifecycle phase of *lifetime achievement and retirement*.

4.1 Family planning

Based on a business environment analysis, the participants draw a stakeholder map and identify the most relevant stakeholders. This stakeholder mapping and analysis is usually performed in 1-2 iterations (mean 1.25) in about 43min. Following the user-centred approach of the workshops, the character and needs of the key stakeholders are then elaborated by using personas. The participants evaluate this approach throughout positively, as reflection statements such as "*the user perspective, that you empathize with the person and develop solutions that really benefit this person*" (participant WS E) or "*what I have learned here is that the requirements are personified through the personas*" (participant WS A) demonstrate.

4.2 Conception and gestation

The participants develop three to five personas in teams of 3-5 people. To do so, they typically use brown-paper (cf. Figure 1, A). The teams analyze the personas' needs and pains, and summarize their insights in a short *user story*. Following an iterative approach, the teams present their intermediate results and receive feedback from the other teams. The teams spent on average 3:21h in 3-5 iterations (mean 3.60) on the

development of the persona. These 3-5 iterations comprise the creation of the personas, a potential refinement, the analysis of the needs and pains and the formulation of a concise user story, which is the input for the ideation and prototyping activities.

The participants made both positive and negative reflection statements with regard to the conception phase. Positive: "*The personas made an impression on many participants. On me too. Why? Because those were our own personas. I have been in touch with personas several times in the past. However, I have always been introduced to personas that someone else developed. From a present-day perspective, I must say that it was difficult to empathize with those personas. Therefore, it never made sense to me. But [in this workshop] it started to make sense. I have seen how to develop them and to empathize with them. And this is great. And this is what I take home*" (Participant WS E). Negative: "*We invested a lot of time into the persona definition. There is certainly more behind it, but I could not understand it. We invested a lot of time and yes, eventually we focused on the persona, but we could have done that faster*" (Participant WS A). Notably, the participants of workshop A invested only 2:27h in the persona conception, remarkably less time than the average.

4.3 Birth and maturation

The *birth and maturation* phase marks the transition from persona creation to persona usage. This step is missing, as the teams that develop the personas continue to work with them. In a few workshops, however, the team composition changed after the first phase *('identifying the right questions')*. However, given the iterative approach, all workshop participants had been introduced to and commented on all personas. Therefore, they were never actually faced with personas they were not familiar with.

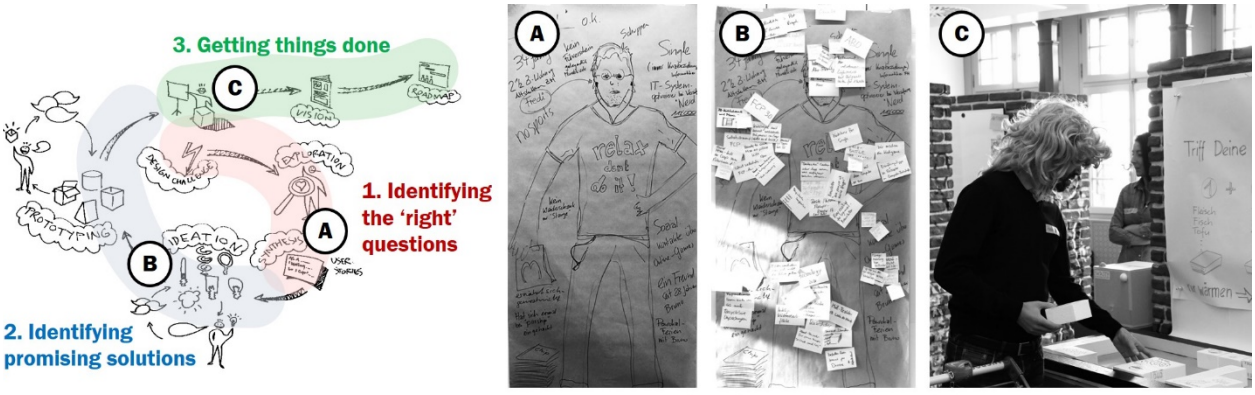

Figure 1. The workshop concept with its three phases, and 'Fredy' at the end of conception (A), during the ideation (B), and at the final presentation (C).

4.4 Adulthood

The *adulthood* phase corresponds to the ideation and prototyping activities in the second workshop phase ('*identifying the right solutions')*, when the personas were used to guide the design process. For example, Figure 1 (B) shows the result from the first ideation activity that was directly performed on the personas. At the final presentation, one of the participants dressed as 'Fredy' and played the persona in a short role play to present the product that the team developed (cf. Figure 1, C). However, the presence and influence of the personas during *adulthood* varied from workshop to workshop. From the 81 personas that have been created, only 31 survived until the final presentation, which is resulting in a survival rate of 38%. As we will see later (cf. section 4.5), the survival rate is not significantly related to the workshop performance. Nevertheless, the survival rate was a topic in the reflections by the participants. Some participants positively acknowledged the help of the personas during the second phase: "*we had several characters and each one*

had different needs that were relevant for the application" (Participant WS A) or "*all in all, it was very inspiring. The whole set up with the three personas that we defined in the beginning. You always had to compare your ideas with these three guys. Really good*" (Participant WS K). Other participants regretted that the personas lost influence during *adulthood*, especially in comparison to the effort that has been spent on their development: "*What I found odd, and I mentioned that before, is the immersion with the personas, but ignoring later on what actually defines them*" (Participant WS F) or "*I wonder whether our evaluations consequently referred to the personas. This suddenly got lost along the way. It is a pity that we made such a huge effort just to lose touch with the personas*" (Participant WS H).

4.5 Lifetime achievement and retirement

The *lifetime achievement and retirement* phase involves the assessment of the persona use. At the very end of their ideation workshops, the participants reflected on the process and outcome of the workshop. In 11 out of 20 workshops, the participants explicitly mentioned the persona tool. We coded these statements according to the persona lifecycle phase that they addressed (cf. Figure 2). As Figure 2 shows, 78% of the statements were positively connoted and 22% negatively. One of the most valuable lifetime achievement of personas is when the participants learn how important user-centricity is for successful product development: „*What I certainly take home is the persona methodology. I think that this makes easier for us to look at our work from a different perspective. The perspective from a potential user. Typically, we just take our own company perspective"* (Participant WS C). Another learning is that you need to work with personas in order to learn about their true benefit: "*I have been intrigued by what Karsten, Anna, Florence and Eugen achieved due to the fact that they joined us. Through that I took an entirely new perspective myself. In the beginning, when you introduced the tool, I would not have expected what this causes"* (Participant WS B). With hindsight, i.e. at the end of the workshop, the participants recognized the value of the tool, which is reflected in the entirely positive statements on the overall use of personas during the ideation workshops.

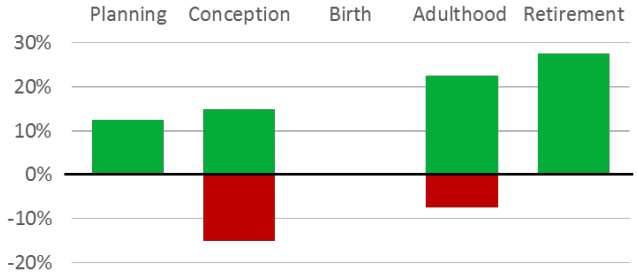

Figure 2. Relative amount of coded statements regarding the five phases of the persona lifecycle. In total, 78% of the statements were positively connoted and 22% negatively.

4.6 Influence on workshop performance

Whether and how the participants commented on the persona methodology is not correlated to the general perception of the workshop performance (cf. Table 1, first column). This is underlined by the fact that there was critical feedback on the persona tool in "good" workshops, too. In order to analyse the influence of the persona tool in more detail, we correlated the coded participants' reflection, the personas' survival rate, the number of iterations during family planning and conception, as well as the time spent on persona development with the workshop performance (cf. Table 1). The persona survival rate is significantly positively correlated with the number of iterations during persona development (.451*). The number of iterations is significantly positively correlated with both the time spent on persona development (.487*) and the overall workshop performance (.477*). However, there is no significant correlation between the time spent on persona development (.053) or the persona survival rate (.280) and the workshop performance.

Table 1. Correlations of Reflection, SurvivalRate, RaisingCycles, RaisingDuration, and Performance (* significant at p<.05; 2-tailed).

	Reflection		SurvivalRate		RaisingCycles		RaisingDuration		Performance	
Reflection	1	(N=11)								
SurvivalRate	.138	(N=11)	1	(N=20)						
RaisingCycles	.230	(N=11)	.451*	(N=20)	1	(N=20)				
RaisingDuration	.171	(N=11)	.424	(N=20)	.487*	(N=20)	1	(N=20)		
Performance	.138	(N=10)	.280	(N=18)	.477*	(N=18)	.053	(N=18)	1	(N=18)

5. Discussion

Despite that the teams spent little time on the development of their personas and that the personas are based on experience rather than user research, the persona methodology can be successfully applied as a design tool in short-term ideation workshops. Our analysis indicates that this depends on two specific factors. First, the personas were developed in an iterative process with several work, presentation, feedback and reflection cycles (3-5 iterations). And second, they were developed in multi-disciplinary teams consisting of people with different expertise and experiences. What is more, we observed different patterns of how they are used during the workshops.

5.1 Developing personas in short-term ideation workshops

The persona development process covered the same steps as Pruitt and Adlin's (2006) persona lifecycle. The only exception is the *birth and maturation* phase, as the team who develops a persona typically uses it. This seems to be a true advantage compared to the difficulties that other research identified when personas are transferred from a creating to a using team (e.g. Blomquist & Arvola, 2002; Pruitt & Grudin, 2003). Furthermore, a notable difference exists in the time spent on their development. The teams that we observed spent on average 3:21h to develop their personas. Compared to the 1-2 weeks for real data-driven personas or at least 1 day for assumption-based personas (Pruitt & Adlin, 2006), this seems to be insufficient. However, this is compensated by the iterative approach and the multi-disciplinary teams. Our results show that an increasing number of iterations (RaisingCycles) is positively and significantly correlated with workshop performance (0.477*), while on the other hand just spending more time on persona development (RaisingDuration) does not correlate with workshop performance (0.053). A possible explanation is that the iterative approach offers multiple occasions for reality checks. Every team presents its personas 3-5 times (mean 3.60) and receives feedback from the other teams. In addition to the 3-5 participants who actually create a persona, an additional 9-12 workshop participants validate them. Similar to extensive user research, these reality checks may reduce the risk of inventing details or relying too heavily on gut feeling (Jacobs et al., 2008).

5.2 Working with personas in short-term ideation workshops

Our results indicate that there exist two varying personas usage patterns: 1) personas as starting point and 2) personas as reference point. In the case that personas are used as starting point (negatively connoted statements, cf. section 4.4), they help to frame the problem, but they are forgotten as soon as the team starts to focus on technical aspects during ideation and prototyping. When personas are used as reference point (positively connoted statements, cf. section 4.4), they become an active member of the design team. The personas are then used to evaluate the ideas and prototypes with regard to their needs and pains. The survival rate indicates that about 38% of the personas were explicitly referred to in the final presentations. However, losing grab of the personas does not necessarily need to be negative. With both patterns, it is possible to achieve convincing workshop results.

6. Conclusion

In this paper, we showed that personas are a valuable design tool to promote user-centricity during short-term ideation workshops in the early phase of new product, service and business model development. We found that an iterative approach in combination with a multi-disciplinary team that combines a broad range of expertise and experiences may compensate for the limited amount of time that is spent on user research. Our study has some limitations too. We have not been able to collect the detailed evidence necessary to reveal the interplay between the personas and the ideas that emerge during the workshops. Such insights might allow us to better tailor the persona methodology to the workshop challenges that range from end user-oriented service developments to high-tech product developments. Furthermore, a closer look at the challenges and questions that arise during the creation of assumption personas might help to improve the persona methodology by providing helpful templates or giving homework upfront. While further research will tackle these limitations, this study builds a strong case for working with personas in short-term ideation workshops.

7. Acknowledgement

We would like to thank *dieMobiliar* cooperative for funding this research, the workshop moderators for their kind collaboration, Florian Baumgartner for drawing the illustration in Figure 1, and all workshop participants for their valuable feedback.

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