Unlocking the experience economy

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Unlocking the experience economy: Integrating design for experience knowledge into fast moving consumer goods (FMCG) product innovation

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This paper explores the integration of experience-driven design approaches into the product innovation practices of fast-moving consumer products, with the aim of increasing impact and delivering additional (emotional) value to consumers. To achieve this, theories of leading experts in the field have been reviewed, key principles of designing for experience have been identified and reflected on in the context of product innovation practices of a global leading fast-moving consumer goods company as a case study. The main finding is that there is a need for a range of small and diverse actions, which can be clustered in three themes: actionable behavior, organizational matters, and strategic approach. Starting with qualitative consumer insights is essential in designing prototypes that can be used to evaluate the user experience in addition to technical workability and market research data. This entails a new approach to early-stage prototyping, testing a minimum viable product experience (MVPX) in addition to minimum viable products (MVP). On the organizational side, there needs to be a true collapse of the roles of researchers and designers. The innovation target needs to shift from pain point relief to positive consumer experiences. Measuring emotions at scale will be necessary to quantify consumers' willingness to pay for them. On the strategic side, design for experience needs to become a conceptual activity, changing the innovation currency from consumers' money spent on functionality (product) or convenience (services) to consumers' time and money spent on emotional well-being to make experiences a distinct economic offer.

Keywords: experience design; product innovation management; FMCG; experience economy

1 Introduction

Laundry and home care fast-moving consumer goods (FMCG) products, being the focus of this research, involve a rich set of emotions. Previous studies have explored the emotional experiences associated with these products, such as the satisfaction, relief, and pride experienced when correctly sorting the laundry, selecting the right detergent, dosing the correct amount, and using the

appropriate machine program (Emotion studio, 2017-2022). In these studies, trained consumers articulated their emotions upon every step of the product interaction from first touch, opening, use and reuse until the disposal of the pack. This broad set of emotions combined with the almost daily interactions highlight the significant potential for designers to create meaningful experiences and enhance human well-being. However, despite this potential, the integration of design for experience knowledge into FMCG product innovation has been limited, as revealed by the literature review conducted in this research. This raises the question of why this knowledge has not yet reached FMCG product innovation.

In 2009, a decade after Pine and Gilmore's vision of the experience economy (Pine & Gilmore, 1999), Desmet and Hekkert (Desmet & Hekkert, 2009) raised the general question in the editorial for the special edition on design and emotion of the International Journal of Design, asking why Pine & Gilmore's vision had not yet been embraced in practice. Today, again more than a decade later, this has not changed for everyday FMCGs, although progress has been made in fields with higher product awareness, such as tourism and information technology. Everyday FMCG products may not be as memorable as a theme park visit, or as desirable as a mobile phone, but they are also sold and supplied by top brands that provide emotional marketing values that consumers are willing to pay for. The core functionality of these products can be obtained from non-branded products at almost half of the price, as demonstrated by Stiftung Warentest – one of the largest independent product testing institutes in Germany - in their recent tests of solid heavy-duty detergents (Stiftung Warentest, 2021, 2023).

1.1 Research aim and potential

The aim of this research is to generate knowledge regarding the implementation of experience-driven design in the practice of product innovation management. To achieve this, we conducted a literature review to identify universal principles of experience-driven design methodology. These principles were then reflected on in relation to our own product innovation practise at Henkel Laundry & Home Care, a leading global FMCG company. Through this inquiry, we gained insights into the reasons why the methodologies reported in the literature may not be readily applicable in practice. Furthermore, we identified opportunities for integrating design for experience knowledge into the practises of everyday FMCG product development. The findings of the study contribute to design and innovation management theory, as well as to the practice. They can provide guidance for researchers who are developing experience-driven design methodologies, enabling them to align their approaches with the specific needs of innovation practices. For companies this creates opportunities to increase their impact on consumers, contributing to their daily well-being and valorise product experiences as an additional business offer.

The remainder of this paper is structured as follows. First, we will discuss the two phased approach we took to address this gap between science and practice. Subsequently we discuss the results of these two phases. Especially, we will elaborate the second phase as this explicitly focusses on elements that will help us to bridge the gap. This is followed by a summary and discussion. We end the paper with drawing our conclusions and provide an outlook on future activities.

2 Methodology

To address the gap between the literature on experience design and its actionability in practice, we took the following described steps. These steps are part of a larger research project that is based on

a Deweyan approach in which we meander continuously between the domain of science and the domain of practice.

2.1 Challenges

To discover the principles of designing for experience, an initial keyword search first in Scopus, the biggest peer-reviewed database, and further on in Google Scholar, the quantitative largest database, did not yield useful results. Narrowing down the terms “Design for experience” and “Experience design” search with additional search terms such as “principle,” “method,” “application” and “implementation” produced many false-positive results because terms describing the problem are also used in another context, describing the methodology of the published paper itself. Further narrowing the search with specific terms from the field, such as “Consumer goods”, “FMCG”, “Consumer packed goods”, “CPG”, “Laundry Care”, “Home Care” or “Personal Care” provided only a few results with no relevance. We therefore decided that a different, less-traditional approach was needed.

2.2 Leading experts’ approach

To overcome the problem of determining effective keywords, we identified instead the leading, acknowledged experts in the field of design for experience and reviewed their top publications. We then reflected on the discovered key principles from the lens of innovation practice in nine steps. To do so, we followed the overarching logic of an inquiry (Dewey, 1938) combining theory and practice to unveil differences between the described principles and actual practice. The process, visualised in Figure 1, consists of two main phases: a literature review, marked in light grey, and reflection upon practice, marked in dark grey.

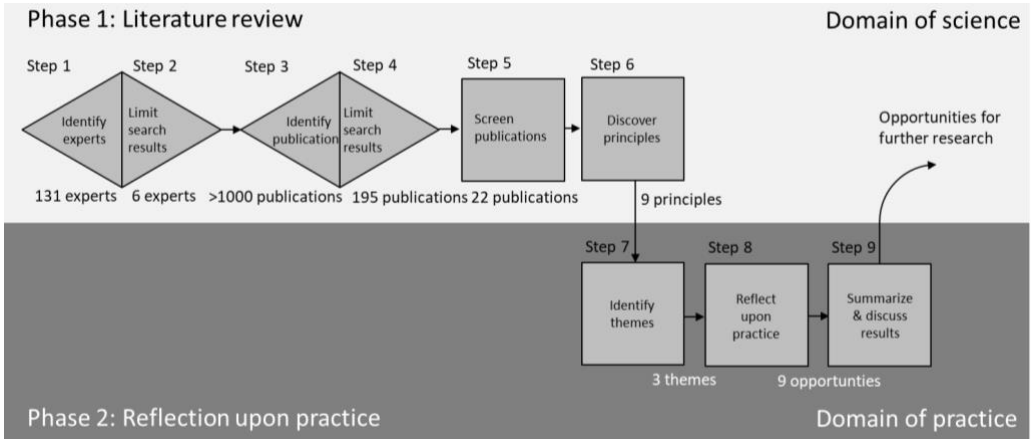

Figure 1: Search process visualisation

2.2.1 Phase 1: literature review

Step 1: Identify experts. Considering the limitations of the preliminary search, we decided to use the most comprehensive database of Google Scholar to identify experts in the field. Google scholar offers a feature that allows searching for author profiles, in addition to author names. On the profile section, we used the search terms “label:design_for_experience" and “label:experience_design”, providing 131 experts, which we ranked by their citation count.

Step 2: Limit search results. To limit the results, experts were selected with a total citation count above 10.000, resulting in six experts.

Step 3: Identify publications. These six experts published more than 1000 papers, articles, and books, which were ranked based on their citation count.

Step 4: Limit search results. To narrow down the results further, a citation count per publication larger than 100 was used as threshold to include a relevant number of publications and at the same time excluding publications not widely acknowledged. This led to 195 publications.

Step 5: Screen publications. The abstracts of these publications were screened to identify principles of doing experience design and relevance to the practice of FMCG development, resulting in 22 publications.

Step 6: Identify principles. These 22 publications have been reviewed upon presented principles and their relevance for FMCG product innovation. This resulted in 9 principles. The analysis revealed two types of insights: explicit and implicit principles. Explicit insights are those that authors mentioned directly in their works, while implicit insights are those that authors considered as prerequisites or inherent in the design community and thus deemed not worthy to mention explicitly. A good example is the translation of insights directly into objects, which has been explicit described by Desmet (Desmet & Dijkhuis, 2000). Nevertheless, it is inherent in the work of a designer and for example implicitly mentioned also by (Hassenzahl, et al., 2013). Even though these implicit insights were not always mentioned directly, they are highly relevant and worth reporting to the product innovation practice, where innovators from various backgrounds come together.

2.2.2 Phase 2: reflection upon practice

Step 7: Identify themes. After analysing the principles, they were grouped into three main themes. These themes represent different knowledge areas and provide a structure to connect with the FMCG innovation practice.

Step 8: Reflect upon the product innovation practice. The real 'doing of innovation', which extends beyond the written knowledge about innovation processes, is implicit knowledge (Junginger, 2018). To leverage this implicit knowledge, the researcher needs to become a practitioner (Ristau, 2021). We used research introspection (Xue & Desmet, 2019) in two steps: First, the first author as practitioner, followed by a group reflection of the three authors. This approach helped to unveil the differences between the explicit discovered principles and the implicit innovation practice.

Step 9: Summarise and discuss results. Through these differences we were able to identify opportunities for each principle to bring design for experience into practice of FMCG innovation. The research also identified opportunities for further research.

3 Results

3.1 Results from phase 1: literature review

The six identified experts published more than 1000 publications that reached together more than 100.000 citations. To ensure a sufficiently broad coverage while retaining a reasonable number of publications, we considered only such with a minimum of 100 citations. This resulted in a total of 195 publications. These publications were screened for principles by reviewing their abstracts and, if necessary, their full texts. This approach solved the initial problem of relying solely on keyword

searches and resulted in a selection of 22 publications authored by four experts. We summarized the numerical results in Table 1.

Another advantage of the expert approach is that it allowed for easy identification of the impact of design for experience in different domains through the authors' affiliations and publication fields. For instance, Fesenmeier and Scott focus on the marketing side of a tourism experience, while Gaggioli concentrates on information technology and interface design. These domains differ significantly from FMCG products that are the focus of this research. Although the underlying psychological principles remain the same, the design principles for physical products are indeed different. For example, iterations cannot be done as quickly as in virtual spaces, and physical product interactions involve more senses such as touch and smell, which need also be developed. Compared to physical tourism experience, next to Fesemeiers and Scotts addressed marketing aspect, a FMCG supermarket product does not included services and is of much lower awareness. Therefore, while the works of Fesenmeier, Scott and Gaggioli are highly valid in their respective domains, they did not provide the desired key insights for this research. Instead, the most valuable insights were obtained from Gilmore, who focuses on the economic side, and Hassenzahl and Desmet, whose work is based on physical product interactions, which are the focus of this research in FMCG. We summarized the key principles discovered through this analysis in Table 2.

Table 1: Identified experts, publications and citation counts

	Author's main domain	**Number of total citations per author**	**Number of publications with citations > 100**	**Number of publications describing key principles**
James H Gilmore	Economics	29.839	12	3
Daniel R Fesenmeier	Marketing, Tourism	27.276	35	0
Marc Hassenzahl	Consumer products	21.964	18	6
Noel Scott	Marketing, Tourism	11.663	13	0
Andrea Gaggioli	IT and user interface	11.552	10	1
Pieter Desmet	Consumer products	10.964	21	12
Total		**113.258**	**195**	**22**

Table 2: Discovered key principles to design for expeience related to FMCG products

#	**Discovered key principles**
1	Start with qualitative insights.
2	Start designing components upon insights and iterate.
3	Prototype to evaluate user experience (UX).
4	Focus on human fundamental psychological needs.
5	Collapsed roles of the consumer researcher and product innovator.
6	Target is articulated as an experience.
7	Targets to provide a positive experience.

8	Considers design as conceptual activity.
9	Considers experience as a distinct additional economic offer.

An overview of the origination of the principles in the 22 publications is shown in

#	Expert	Publication title	Citations	1	2	3	4	5	6	7	8	9
1	Desmet	Framework of product experience	1776				e	i			i	
2	Desmet	Designing emotions	1002							i	e	
3	Desmet	Positive design: An introduction to design for subjective well-being	501	e			e		e	i	i	
4	Desmet	Designing products with added emotional value: Development and appllcation of an approach for research through design	499	e	i	i	i				i	
5	Desmet	Influence of package design on the dynamics of multisensory and emotional food experience	247		i							
6	Desmet	Special issue editorial: Design & emotion	192							i	e	
7	Desmet	Emotional design; application of a research-based design approach	173		e	i		e				
8	Desmet	Towards happiness: Possibility-driven design	170		i					e		
9	Desmet	Product emotion	166								e	
10	Desmet	A wheelchair can be fun: a case of emotion-driven design	143		i	e		i	i	i	i	
11	Desmet	Slow design for meaningful interactions	132		i	I		i	e		i	
12	Desmet	Ten ways to design for disgust, sadness, and other enjoyments: A design approach to enrich product experiences with negative emotions	131				e			i	i	
13	Gilmore	The experience economy: work is theatre & every business a stage	14036						i			e
14	Gilmore	The experience economy: past, present and future	255					i	e		i	i
15	Gilmore	A leader's guide to innovation in the experience economy	130						e		i	i
16	Hassenzahl	User experience-a research agenda	3618				i		i	i	i	
17	Hassenzahl	User experience and experience design	462					I		i	e	
18	Hassenzahl	Designing moments of meaning and pleasure. Experience design and happiness	330	i	e	i	e			e		
19	Hassenzahl	Engineering joy	322		e				i	i	e	
20	Hassenzahl	Towards a shared definition of user experience	266		I			i	i	i	e	

21	Hassenzahl	All you need is love: Current strategies of mediating intimate relationships through technology	221						i				
22	Gaggioli	Positive technology: using interactive technologies to promote positive functioning	367								e	e	

. Each principle will be reasoned one by one in the subsequent section. A full list is attached at the end as "Appendix 1". Explicit mentions are marked with (e) in dark grey, while implicit mentions are marked with (i) in light grey.

Table 3: Overview of identified publications and origination of discovered key principles.

				Principle								
#	Expert	Publication title	Citations	1	2	3	4	5	6	7	8	9
1	Desmet	Framework of product experience	1776				e	i			i	
2	Desmet	Designing emotions	1002							i	e	
3	Desmet	Positive design: An introduction to design for subjective well-being	501	e			e		e	i	i	
4	Desmet	Designing products with added emotional value: Development and appllcation of an approach for research through design	499	e	i	i	i				i	
5	Desmet	Influence of package design on the dynamics of multisensory and emotional food experience	247		i							
6	Desmet	Special issue editorial: Design & emotion	192							i	e	
7	Desmet	Emotional design; application of a research-based design approach	173		e	i		e				
8	Desmet	Towards happiness: Possibility-driven design	170		i					e		
9	Desmet	Product emotion	166								e	
10	Desmet	A wheelchair can be fun: a case of emotion-driven design	143		i	e		i	i	i	i	
11	Desmet	Slow design for meaningful interactions	132		i	I		i	e		i	
12	Desmet	Ten ways to design for disgust, sadness, and other enjoyments: A design approach to enrich product experiences with negative emotions	131				e			i	i	
13	Gilmore	The experience economy: work is theatre & every business a stage	14036						i			e
14	Gilmore	The experience economy: past, present and future	255					i	e		i	i
15	Gilmore	A leader's guide to innovation in the experience economy	130						e		i	i
16	Hassenzahl	User experience-a research agenda	3618				i		i	i	i	
17	Hassenzahl	User experience and experience design	462					I		i	e	

18	Hassenzahl	Designing moments of meaning and pleasure. Experience design and happiness	330		i	e	i	e			e		
19	Hassenzahl	Engineering joy	322			e				i	i	e	
20	Hassenzahl	Towards a shared definition of user experience	266			I			i	i	i	e	
21	Hassenzahl	All you need is love: Current strategies of mediating intimate relationships through technology	221							i			
22	Gaggioli	Positive technology: using interactive technologies to promote positive functioning	367								e	e	

3.1.1 Principle 1: start with qualitative insights.

A consumer's product experience is highly individual because each consumer enters a product or service interaction with their own set of previous experiences and state of mind, which can hardly be controlled (Desmet, et al., 2001). Designing for experience needs to 'accommodate a personal fit' (Desmet & Pohlmeyer, 2013). These are qualitative insights to begin with that intend to create a deeper consumer understanding before entering the design process of the object.

3.1.2 Principle 2: start designing components upon insights and iterate

As experience is individual, a designer can only design for conditions that allow the consumer to have an experience but not the experience itself. For that, the designer needs to understand the context (Hassenzahl, et al., 2001), analyse patterns and start designing components for a holistic experience (Hassenzahl, et al., 2013) or following the exploration of emotions, start to identify concerns to enter the design process. (Desmet, et.al., 2001). In both cases qualitative, emotional insights are directly translated into an object. This process can have several iterations and intends to create a tangible object.

3.1.3 Principle 3: prototype to evaluate user experience (UX)

Following insights and designing first objects, the design for experience process starts soon with building prototypes. The purpose is to evaluate first user experiences and not the technical workability. A good example is the case of a wheelchair design with an emotional intention (Desmet & Dijkhuis, 2000). The case demonstrated that shifting the focus from technical functionality to user experience can result in practical and effective solutions. Additionally, the example highlighted that starting without an existing product or functionality does not have to limit the development of new solutions.

3.1.4 Principle 4: focus on human fundamental psychological needs

Design for experience focuses on addressing deeper human psychological needs (Desmet & Pohlmeyer, 2013). These needs can be met in various ways, such as through an aesthetic experience, experience of meaning, or emotional experience (Desmet & Hekkert, 2007). Even negative emotions can contribute to an experience by framing them in a way that considers human fundamental needs. For example, a roller-coaster ride may elicit negative emotions like fear and anxiety, but if a safety frame is in place, it can still lead to an overall sense of joy. (Fokkinga & Desmet, 2013) Framing can also make positive moments more explicit through well designed pre- and post-activities (see, for

example (Hassenzahl, et al., 2013). This can be achieved by keeping the focus on the psychological needs rather than on the problem.

3.1.5 Principle 5: collapsed roles of the consumer researcher and product innovator

Starting the design process with emotional concerns (Desmet & Pohlmeyer, 2013) or the understanding of context (Hassenzahl, et al., 2001), is a research activity that collapses the roles of the designer as described by (Desmet, et al., 2001) driven by the intention to understand fundamental consumer needs, design tangible objects and being able to iterate the process to improve the object.

3.1.6 Principle 6: target is articulated as an experience

According to Desmet and Pohlmeyer (Desmet & Pohlmeyer, 2013), design for experience leads to "…products that are more engaging, more authentic, and easier to use". The focus is on the experience itself rather than on the product or service. Targets are established with defined criteria and currencies to measure them. User time is a fundamental currency for experiences (Pine & Gilmore, 2014) Innovators who design for experience must prioritize the user's time and use it wisely.

3.1.7 Principle 7: targets to provide a positive experience.

Designing for experience aims to improve human happiness and well-being (Hassenzahl, 2013), and to support human functioning and flourishing (Riva, et al., 2022). This is an incredibly positive target that requires innovators to adopt a possibility-driven approach rather than a problem-driven one, to unlock all possibilities to find creative solutions for consumers' varied challenges (Desmet & Hassenzahl, 2012).

3.1.8 Principle 8: considers design as conceptual activity

Design for experience is a powerful approach creating human value by evoking emotions, communicating with consumers, and building deep and strong relationships with them (Desmet & Hekkert, 2009). This deep impact on the consumer comes with responsibility (Desmet & Hekkert, 2009). A recent example of positive influence is where design for experience is supporting the sustainable use of the product. When viewed as a distinct approach, design for experience transcends traditional form-giving, becoming a conceptual activity that can guide the innovation process and help to facilitate decisions.

3.1.9 Principle 9: considers experience as a distinct additional economic offer

Pine and Gilmore propose to treat experiences as a distinct economic offer, in the same way as services are seen as a distinct economic offer to the product sales (Pine & Gilmore, 1999). That allows creating specific and distinct innovation targets for the consumer experience in addition to product performance and convenience.

3.2 Results from phase 2: reflection upon practice

We have clustered these principles into three themes based on how and where they can be addressed during the innovation process inside a company, which proved helpful in structuring the reflection process. The first theme, "actionable behaviour", addresses actions that individual innovators can undertake, regardless of the intended organizational process. The second theme, "organizational matters", requires stakeholder buy-in to adapt innovation targets or change the innovation process itself. The third theme, "strategic approach", requires strategic alignment and acknowledgement of how innovation is understood, and design is considered within a company. Table 4 provides an overview linking the results from Phase 1 to the identified themes and the reflection upon practice.

Each principle and reflection are discussed one by one in the following section now with a lens from the innovation practice.

Table 4: Themes, discovered key principles and reflection on the product innovation practice

Theme	#	Discovered key principles	Reflection on the product innovation practice
Actionable behaviour	1	Start with qualitative insights	Start with quantitative insights
	2	Start designing components upon insights and iterate	Start writing concepts upon insights and iterate
	3	Prototype to evaluate user experience (UX)	Prototype to evaluate technical workability (MVP)
	4	Focus on human fundamental psychological needs	Focus on consumer pain points
Organizational matters	5	Collapsed roles of the consumer researcher and product innovator	Separated roles of the consumer researcher and product innovator
	6	Target is articulated as an experience	Target is articulated as turnover and net revenue
	7	Targets to provide a positive experience	Targets to provide value for money
Strategic approach	8	Considers design as conceptual activity	Considers design as form giving tool
	9	Considers experience as a distinct additional economic offer	Considers product and brand as economic offer

3.2.1 Principle 1: start with qualitative insights

Reflection upon practice: Starting with qualitative insights in FMCG innovation that targets mass markets can be challenging. It is almost impossible to gain a company's innovation stakeholder group approval to start a project based on "what only a few consumers said", even when these qualitative insights are generated in a robust manner. Even in stakeholder groups, diverse views are present due to varying backgrounds and responsibilities. Using quantitative market research in an early project phase does not only aim to evaluate mass market suitability but also to harmonize internal viewpoints in a transparent way without creating too much and too complex discussion. This 'evidence-based' input is simply the practice within organisations.

Opportunity: Using qualitative insights from at least 10 consumers, representing more than the project stakeholders, can be a first starting point. Further, the development of methods to qualify consumer emotions on scale provides potential to gain broader acceptance and to add competitive value to market research data. While technologies supporting this have evolved, they cannot yet identify and qualify emotions clearly. For example, smart watches, tracking heart rate and blood oxygen saturation can mark a tangible moment for the consumer. But whether this elevation is driven by excitement or annoyance still needs further investigation as an emotion mapping study showed, comparing technology-enabled and self-reported emotions on the same product (Emotion studio & CX labs, 2021).

3.2.2 Principle 2: start designing components upon insights and iterate

Reflection upon practice: In an early project phase, marketing experts or market researchers often serve as the gatekeepers of consumer insights. Their role is to translate these insights into written concepts, with the aim of creating development briefings. These written concepts are the foundation for product design and development briefings to external design agencies and internal development teams. This separation between roles creates an additional barrier for the design process. Compared to a design for experience approach the translation into objects comes at a later stage, is done by other people, and backwards iterations to the original insights are rather difficult.

Opportunity: Starting with design in the concept stage directly upon insights to transfer concept into objects early on, potentially first as visualizations. To do so, marketing, design & development teams need to be connected early on. This can help to avoid that emotional insights get lost in transfer between briefings or departments and potential needed iterations can be done faster and easier.

3.2.3 Principle 3: prototype to evaluate user experience (UX)

Reflection upon practice: In innovation practice, the first prototypes are typically developed in a chemistry lab to assess the feasibility of the envisioned product composition. This approach is similar to the concept of a minimum viable product (MVP), which intends to validate technical workability or to establish basic product features. While MVPs can be effective for evaluating individual components such as fragrance, colour, or product stability, they may not effectively capture the complete emotional potential of the final product, as it is the intent of early design prototypes in experience-driven design processes. Consumers may struggle to envision the emotional potential of an MVP, as they are typically not trained as innovators.

Opportunity: Building experience prototypes in an early project phase to test user experiences should be like building MVPs to test workability, providing an opportunity to connect experience and technology development at an early stage. Such prototypes, which can be called ‘minimum viable product experience’ prototypes (MVPX), can help consumers to envision the later product and innovators to take more informed choices. Exploring what an MVPX for everyday FMCG is and how to incorporate it into an early-stage product innovation process is promising area for further research.

3.2.4 Principle 4: focus on human fundamental psychological needs

Reflection upon practice: Laundry and home care products are everyday items with low awareness and often associated with undesirable tasks. Who truly enjoys doing the laundry or cleaning the dishes? However, if the sole focus of product innovation is on providing relief from these unpleasant tasks, it overlooks the deeper psychological needs of the consumer. Continuously addressing pain points will eventually lead to a service model where someone else is doing the (unpleasant) job for the consumer. While the ultimate goal to improve human-wellbeing remains the same, the approach to focus on problems rather than the underlying needs represent a fundamental difference in perspectives. This structural difference can limit the development of meaningful experiences that address the holistic needs of consumers in the contexts of laundry and home care products.

Opportunity: Despite their low awareness, laundry and home care products elicit a wide range of positive and negative emotions, as was shown by the emotion mapping of laundry and home care products (Emotion studio, 2017-2022). One of the needs associated with these products is safety. Consumers must handle chemicals, and there are legal requirements for child-safe packaging. Safety

is a fundamental human need, much like the need for safety experienced during a rollercoaster ride. This presents an opportunity for reframing the experience. By nature, child-safety packaging asks consumers for more effort to open a pack. Can an element of excitement be added to this increased effort? Focussing on fundamental human psychological needs and enriching tasks instead of just eliminating unpleasantness, could be used to create new desirable product experiences also for FMCG products.

3.2.5 Principle 5: collapsed roles of the consumer researcher and product innovator

Reflection upon practice: In large organizations, work is typically distributed among many departments and individuals, including market research, marketing, consumer research, formula development, packaging, and many more. This division of labour aims to increase organizational efficiency and to leverage deep expertise to create high-quality products in the same ways as designers do. However, this approach can inadvertently lead to the loss of important information as tasks are handed over from one group to the next. Moreover, each department tends to view the project through its own unique lens and objectives, making it challenging to maintain a consistent focus on the overarching goal. This fragmented approach can hinder collaboration and result in a lack of synergy among teams, potentially impeding the development of innovative, holistic product experiences.

Opportunity: Bringing research and design and development teams closer together is key for the creation of a holistic and seamless product experience. One way to achieve this is by building crossfunctional, empowered teams that stay together throughout the entire development cycle, which can help reduce the number of handovers and maintain a unified focus.

3.2.6 Principle 6: target is articulated as an experience

Reflection upon practice: Henkel's purpose is to be "Pioneers at heart for the good of generations." (Henkel AG & Co KGaA, 2023), which is a human-centred target that also includes promoting human well-being. However, to achieve this purpose, the company must generate turnover and revenue. Therefore, profitability targets are set for every innovation project, with the currency being consumers' money. This does not necessarily conflict with the goal of improving human experience, as a much better experience often leads to a higher willingness to pay, as noted by (Pine & Gilmore, 2014). However, the currency is different. Corporate innovation profitability targets use consumers time versus experience design using consumers money.

Opportunity: To ensure that experiences can deal with the innovation currency, we must find ways to quantify consumers' willingness to pay for experiences and to determine the value of consumer's time, in addition to measuring emotions at scale as an opportunity outlined in principle 1. Slowing down an experience can provide an opportunity to enrich it (Grosse-Hering, et al., 2013) and gain value from consumers time.

3.2.7 Principle 7: targets to provide a positive experience

Reflection upon practice: When using consumers' money as the currency, it is crucial to return value to the consumer in some form, whether through product functionality, competitive pricing, a service, or an experience. To make experience part of the business case we identified already that we need to make experience to a development target and quantify consumers' willingness to pay for it. Once we acknowledge and qualify experience as a target, we can begin to explore what a positive and desirable

experience for everyday FMCG might look like. Who really wants to do the laundry or clean the dishes? While the awareness for this type of product may not be high, there is a rich set of emotions involved, as demonstrated by emotion mapping studies of laundry detergent caps and automatic dishwashing tablets. (Emotion studio, 2017-2022)

Opportunity: Discovering a positive and desirable experience profile of low-awareness everyday laundry and home care products holds a great deal of potential for further research. Through this research, new, more holistic product innovation targets can be generated that include experience.

3.2.8 Principle 8: considers design as a conceptual activity

Reflection upon practice: To develop an understanding of how design is considered and understood in Henkel, in 2018 a series of 24 interviews in the laundry and home care business unit has been conducted with the help of an external expert (Joziasse, 2018). We interviewed directors, vice presidents and senior vice presidents from marketing, market research, research, and development in global innovation. Based on these interviews, we identified five key findings that are summarized in Table 5.

#	Findings
1	Design is not yet an integral part of innovation (yet).
2	Most of our product design projects lacked feasibility. Desirability & viability are key at the beginning, feasibility and sustainability are key towards the end.
3	We must become faster and accelerate. Product design … (is a) good way to change culture.
4	Product design … must be an integral and strategic part to be successful.
5	Design is a strategic tool to innovate

Table 5: Findings on how design is considered in Henkel Laundry and Home Care (2018).

The findings of the interview study are surprising in that, while there is a general understanding of the design for experience approach and its potential, there is a gap between knowledge and actual behaviour in terms of the previous principles of actionable behaviour and organizational matters. The realisation that this knowing-doing gap (Pfeffer & Sutton, 2000) requires further investigation, led to the current study. Doing experience design in product innovation practice requires an understanding of both the economic side and the principles of designing for experiences.

Opportunity: Training business functions on design methodologies is essential in the same way as integrating business knowledge into the design education to ensure creating deep and broad innovator's profiles. Those innovators need to be capable to connect on a deep level with other disciplines and will finally allow the creation of cross-functional teams and the collapse of roles as discovered in principle 5.

3.2.9 Principle 9: considers experience as a distinct economic offer

Reflection upon practice: An explicit consideration of experience is only found at the brand level as discussed in the introduction. Currently, the economic offer is a branded product. Development targets are set for product performance & brand experience. Time, money, and resources are allocated according to these targets, whether this is on the brand or product side. To bring experience to a product level, experiences need to become a development target.

Opportunity: Embracing experience as a distinct economic offering requires to make experience to an explicit and measurable target. For that we need to be able quantify consumers' willingness to pay for experiences, as highlighted in principle 6. This presents an opportunity for the laundry detergent industry to adopt new, more holistic development targets that encompass not only product performance and brand experience, but also, for example, the dosing experience. By focusing on enhancing the overall experience of using the product, companies can create added value for consumers.

4 Summary and discussion

The research findings suggest that there is no single solution to successfully bring design for experience into FMCG product innovation. For example, simply involving consumers at an early stage to create a deeper understanding of their needs and desires, is not sufficient if innovation targets do not adapt. Instead, a variety of small and diverse actions must be taken. We discovered practical and actionable opportunities, which are summarised in Table 6, grouped into three themes that provide guidance on how to address these opportunities.

Table 6: Overview of discovered opportunities

Theme	#	Opportunities
Actionable behaviour	1	Find ways to qualify emotions at scale.
	2	Start with design upon insights in the concept stage.
	3	Prototype and test minimum viable product experiences (MVPX).
	4	Frame and embed unpleasant tasks instead of eliminating them.
Organisational matters	5	Building cross-functional, empowered teams that stay together through the whole development cycle.
	6	Identify ways to qualify consumers' willingness to pay for experiences.
	7	Discover what a desirable consumer experience for everyday FMCG can be.
Strategic approach	8	Train innovation teams on design methodologies as conceptual activities.
	9	Develop holistic innovation targets including product performance, convenience, and experience.

The implementation of actionable behaviour provides opportunities for innovators to initiate change, including leveraging qualitative insights and transferring these early stage into objects. Although further research is needed to evaluate evoked emotions with the use of MVPX prototypes and at scale, innovators should not hesitate to explore these ideas. For that we need to be open and explore technology supporting this in small and large scale. Scaling emotion measurement is a critical step in establishing experiences as a robust and recognized innovation criterion that can compete with other measurable innovation targets. This is not only useful for generating insights, but also for satisfying and steering diverse stakeholder committees.

Organisational matters can be challenging to change, as those require buy-in from stakeholders to create experience driven targets. It is essential to first identify what a desirable experience for an

everyday FMCG product can be, and to quantify consumers' willingness to pay for it. These new, broader innovation targets that include consumer experience require cross-functional teams of innovators with diverse and broad profiles.

Changes in the strategic approach need an alignment on how design and experience is considered. It is essential to train innovation teams (and stakeholders) to consider design for experience methodologies as conceptual activities and to develop experiences as a distinct economic offer. These opportunities require patience and persistence. Successful pilots can help to further convince and enable such change.

When we put these insights into practice we need to acknowledge and respect that every company and every product innovation practice is unique. With every innovation project practitioner constantly grow and develop the company's innovation knowledge base, making it impossible to re-create the same conditions for such reflection. For that we need to be open that there might be even more or other opportunities when reflecting the discovered principles upon other practices. Nevertheless, the discovered principles are universal. On the other end the challenges on the identification of the relevant publications showed that we need to be also open for further principles to be unveiled in future. A content driven keyword search did not work. A authors citation index driven search unveiled leading experts and limited the over 1000 publications, but it is not able to unveil high relevant publications that are brand new, less citated and/or of authors that might have just started into the field. For that we want to encourage other researchers and innovators to explore their practices as well and grow this interdisciplinary and actionable knowledge base to close this gap between science and practice.

5 Conclusion and outlook

We identified opportunities how design for experience can be integrated into FMCG product innovation practise. The literature review showed that the design research community has a comprehensive knowledge base on design for experience, which we summarised into key principles. It is long overdue that this knowledge reaches the daily innovation practice. Combining theory and practice has proven to be a powerful method, which proved to create new and notably actionable knowledge. This 'compliance to practice' check did not only make the discovered principles more impactful, but also revealed opportunities for further research. In Table 7 we summarized the key opportunities.

Table 7: Key opportunities for further research

#	Key opportunity	Potential
1	**Design for everyday product experience:** What is a desirable everyday (low awareness) FMCG product experience?	Create new targets for product innovation
2	**Cold and warm layers of a consumer product relationship:** Which technologies can help to qualify consumer's (emotional) experience at scale and their willingness to pay for them?	Make experience to an innovation criterion to compete with other hard innovation criteria.
3	**From MVP to MVPX:** What need to change in early stage of product innovation management to allow teams to design for experiences?	Design new ways of working in product innovation.

In general, a significant gap can be observed between the disciplines of design (for experience) and (business) economics, across all discovered opportunities and themes. This gap exists in terms of approach (qualitative versus quantitative), innovation currency (time versus money), and target (experience versus revenue). To overcome this challenge - not only of design for experience - we cannot afford to think in silos. We need to utilize all resources we have. This means that businesses need to be open to design-driven approaches, and the design community needs to acknowledge consumers' willingness to pay as an innovation currency. There is no conflict in this, but it requires further cross-disciplinary research, cooperation, mutual trust, and acknowledgement. Growing this cross-disciplinary knowledge base will allow designers and companies to develop new products with experiences as a distinct economic offer in addition to products (performance) and services (convenience). The role of design as a conceptual activity will increase the design research community's impact, and a better understanding of what a desirable everyday product experience is will contribute to consumers' daily well-being. With these opportunities we conclude and would like to set a starting point for further research.

References

Desmet, P. (2002). *Designing Emotions.* TU Delft.

Desmet, P. (2008). Product emotion. *Product experience*, 379-397.

Desmet, P., & Dijkhuis, E. (2000). A Wheelchair can be Fun: A Case of Emotion-driven Design.

Desmet, P., & Hassenzahl, M. (2012). Towards Happiness: Possibility-Driven Design. *Human-Computer Interaction: The Agency Perspective. Studies in Computational Intelligence vol. 396*.

Desmet, P., & Hekkert, P. (2007). Framework of Product Experience. *International Journal of Design Vol.1 No.1*, 57-66.

Desmet, P., & Hekkert, P. (2009). Special issue editorial: Design & emotion. *International Journal of Design, 3(2),*, 1-6.

Desmet, P., & Pohlmeyer, A. (2013). Positive design: An introduction to design for subjective well-being. *International Journal of Design, 7(3)*, 5-19.

Desmet, P., Overbeeke, C., & Tax, S. J. (2001). Desinging products with added emotional value; development and application of an approach for research through design. *The Design Journal, 4 (1)*, 32-47.

Dewey, J. (1938). *Logic: The Theory of Inquiry.* Southern Illinois University Press (USA).

Emotion studio & CX labs. (2021). *Dual-study emotion mapping (Internal study).*

Emotion studio. (2017-2022). *Emotion mapping laundry & home care products (Internal study).*

Fokkinga, S., & Desmet, P. (2013). Ten ways to design for disgust, sadness, and other enjoyments: A design approach to enrich product experiences with negative emotions. *International Journal of Design, 7(1)*, 19-36.

Grosse-Hering, B., Mason, J., Aliakseyeu, D., Bakker, C., & Desmet, P. (2013). Slow design for meaningful interactions. *IGCHI Conference on Human Factors in Computing Systems*, 3431-3440.

Hassenzahl, M. (2013). *The encyclopedia of human-computer interaction: User experience and experience design.* The Interaction Design Foundation.

Hassenzahl, M., & Tractinsky, N. (March-April 2006). User experience - a research agenda. *Behaviour & Infomration Technology, Vol. 25, No. 2, March-April*, 91-97.

Hassenzahl, M., Beu, A., & Burmester, M. (2001). Engineering joy. *IEEE Software, vol. 18, no. 1, Jan-Feb*, 70-76.

Hassenzahl, M., Eckoldt, K., Diefenbach, S., Laschke, M., Lenz, E., & Joonhwan, K. (2013). Designing Moments of Meaning and Pleasure, Experience and Happiness. *International Journal of Design*.

Hazzenzahl, M., Heidecker, S., Eckoldt, K., & Hillmann, U. (2012). All You Need is Love: Current Strategies of Mediating Intimate Relationships through Technology. *ACM Trans. Comput.-Hum. Interact. 19, 4, Article 30*.

Henkel AG & Co KGaA. (06. 03 2023). *Henkel Corporate Culture*. Von https://www.henkel.com/company/corporate-culture abgerufen

Joziasse, F. (2018). *Executive Summary Product Design Team Interviews & Recommendations (Internal study).* Park Design.
Junginger, S. (12 2018). Product Development as a Vehicle for Organizational Change. *Design Issues 24(1)*, S. 26-35.
Law, E., Roto, V., Kort, J., & Hassenzahl, M. (2008). Towards a shared definition of user experience. In *CHI'08 extended abstracts on Human factors in computing system* (S. 2395-2398).
Pfeffer, J., & Sutton, R. I. (2000). *The Knowing-doing Gap: How Smart Companies Turn Knowledge Into Action.* Harvard Business School Press.
Pine, J., & Gilmore, J. H. (1999). *The experience economy: work is theatre & every business a stage.* Harvard Business Press.
Pine, J., & Gilmore, J. H. (2013). The experience exconomy: past, present & future. In J. Sundbo, & F. Sorensen, *Handbook on the experience economy* (S. Chapter 2, 21-44). Edward Elgar Publishing.
Pine, J., & Gilmore, J. H. (2014). A leader's guide to innovation in the experience economy. *Strategy & Leadership, Vol. 42 No. 1*, 24-29.
Ristau, S. (2021). How to investigate corporate innovation from withhin? The Deweyan inquiry?! *Proceesings of the Continious Innovation Conference 2021* (S. 632-636). Gothenburg: CINet.
Riva, G., Baños, R. M., Botella, C., Wiederhold, B. K., & Gaggioli, A. (02 2022). Positive Technology: Using Interactive Technologies to Promote Positive Functioning. *Cyberpsychology, Behavior, and Social Networking*, S. 69-77.
Schifferstein, H., Fenko, A., Desmet, P., Labbe, D., & Martin, N. (2013). Influence of package design on the dynamics of multisensory and emotional food experience. *Food Quality and Preference, Volume 27, Issue 1*, 18-25.
Stiftung Warentest. (2021, 2023). *Warentest*.
Xue, H., & Desmet, P. (2019). Researcher introspection for experience-driven design research. *Design Studies, 63*, S. 37-64.

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Appendix 1: List of publications included in the review

Table 8: List of publications included in the review.

#	Expert	Short reference
1	Desmet	Desmet & Hekkert (2002)
2	Desmet	Desmet (2002)
3	Desmet	Desmet & Pohlmeyer (2013)
4	Desmet	Desmet, et al. (2001)
5	Desmet	Schifferstein, et al. (2013)
6	Desmet	Desmet & Hekkert (2009)
7	Desmet	Desmet, et al (2007)
8	Desmet	Desmet & Hassenzahl (2012)
9	Desmet	Desmet (2008)
10	Desmet	Desmet & Dijkhuis (2000)
11	Desmet	Grosse-Hering, et al. (2013)
12	Desmet	Fokkinga & Desmet (2013)
13	Gilmore	Pine & Gilmore (1999)
14	Gilmore	Pine & Gilmore (2013)
15	Gilmore	Pine & Gilmore (2014)
16	Hassenzahl	Hassenzahl & Tractinsky (2006)
17	Hassenzahl	Hassenzahl (2013)
18	Hassenzahl	Hassenzahl, et al. (2013)
19	Hassenzahl	Hassenzahl et.al (2001)
20	Hassenzahl	Law, et al. (2008)
21	Hassenzahl	Hassenzahl, et al. (2012)
22	Gaggioli	Riva, et. al (2012)