

The Value of Transparency for Designing Product Innovations

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Abstract: Transparency is frequently used in product innovations for its special visual impacts and unique characteristic of providing more information. Providing effective information is crucial for consumers' adoptions of product innovations. Yet, how the information provided through transparency influences consumer response has not been investigated so far. This study aims to fill in this gap by investigating the application of transparency in product innovations from designers' and consumers' perspectives. Through in-depth interviews with experienced designers (N=6), five design intentions of using transparency in product innovations are identified: *influence look and feel, communicate information regarding product operations, demonstrate technology, show working process, and influence consumer experience*. To validate these findings and explore consumer response, in-depth consumer interviews were conducted (N=13). Results revealed that these design intentions are fulfilled. Moreover, consumers mentioned more specific experience triggered by transparency: *a sense of achievement, engagement, control, relief and discomfort*.

Keywords: consumer response; design intentions; product innovations; transparency.

1. Introduction

Transparency is frequently used to embody product innovations. Product innovation refers to a product that is launched into the market with novel elements (Chandy & Prabhu, 2011) and can be divided into incrementally and really new products. Incrementally new products (INPs) are innovations that are based on current technology. Really new products (RNPs) are innovations that adopted totally new technology (Garcia & Calantone, 2002). Developing product innovations is associated with high risks (Cooper & Kleinschmidt, 1987) because consumers often show resistance to adopting product innovations (Ram & Sheth, 1989).



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As the success of product innovations largely depends on consumer adoption (Hauser, Tellis, & Griffin, 2006), it is essential to consider how designers could stimulate consumers' adoption of product innovations. Prior research has demonstrated the value of product appearance on influencing consumer response to product innovations. For instance, a typical product appearance can improve consumers' attitudes through reducing learning cost of product innovations (Mugge & Dahl, 2013). A complex product appearance can enhance consumers' comprehension of product innovations because it provides a state of congruence between the really new functions and the product's appearance (Cheng & Mugge, 2015). However, besides typicality and visual complexity, there may be other factors that could potentially influence consumer response. Specifically, transparency of the materials that embody product innovations is such an interesting factor. For example, transparent covers are used in the Acti-Fry of Tefal. The transparent parts can draw more attentions and demonstrate the effectiveness of products (Lockton, Harrison, & Stanton, 2010). However, how consumers respond to such transparency remains unexplored. This study aims to fill this gap.

2. Transparency

Transparency refers to the physical property of letting light go through the surface without scattering. Depending on how much light can go through the surface, transparency can be further divided into four-level ranges: opaque, translucent, transparent, and water-clear or optical quality (Ashby & Johnson, 2013). Opaque materials completely block lights, while transparent materials allow light to pass. As a result, consumers can see the situation underneath the transparent materials clearly. Translucent materials allow consumers to see the underlying situation in a blurry way. This study specifically focuses on embodying product innovations with transparent and translucent materials. The optical quality is not covered because it is mainly used for optical instruments.

Due to the special visual effects, translucent and transparent materials are often used in embodying products. Previous studies have explored the symbolic meanings associated with transparent materials in products. Consumers tend to relate transparency with sexiness (Karana, Hekkert, & Kandachar, 2009) and trendiness (Blijlevens, Mugge, Ye, & Schoormans, 2013). Moreover, prior research has concluded that the meaning attributed to products is not only influenced by the sensorial properties of materials (e.g., transparency), but also depends on the product category (Karana et al., 2009). For instance, a transparent teapot is not considered to be novel or trendy, while a transparent toaster is (Blijlevens et al., 2013).

In addition to associated symbolic meanings, one unique characteristic of transparency used in product innovations is that it allows consumers to see the internal situation underneath the product covers. In other words, products with transparency provide more information to consumers, in comparison to product with opaque materials. As a prior study has identified the lack of information as one of the barriers for consumers' resistance to product

innovations (Ram & Sheth, 1989), the more information allowed by transparency could make a profound influence on consumer response, and consequently, on consumers' adoption of product innovations. For example, to embody the innovative technology of rapid air frying, Philips Airfryer (HD9220) uses opaque materials while Tefal Actifry (AL800040) uses a transparent cover that allows consumers to see how food are fried and whether the food is ready or not. Seeing how food is fried may influence consumers' comprehension of the fryer as well as their aesthetic experiences. Whether and how the additional information influences consumer response are still unknown. With an emphasis on the role of transparency for embodying product innovations, this study aims to explore how the additional information provided by transparency influences consumer response to the embodied product innovations.

Two studies were conducted to understand the role of transparency in product innovations. Study 1 was conducted from a designer's perspective and aimed to understand the design intentions of using transparency in product innovations. Because material selections are influenced by multiple factors, including sensorial properties, intangible characteristics and technical properties (Karana, Hekkert, & Kandachar, 2008), the choice of certain materials (e.g., transparent materials) can be considered a compromise of different factors. The application of transparency can thus be driven by different intentions (Crilly, Moultrie, & Clarkson, 2009). Therefore, it is necessary to investigate what intentions underlie designers' choice for transparency in product innovations. Study 2 further examined consumer response to transparency in product innovations, with the aim of validating the findings from study 1. Study 2 also attempted to extend findings from study 1 through understanding how transparency influences consumer response to product innovations.

By investigating both designers' and consumers' perspectives on transparency we contribute to the research on relating design intentions of designers to interpretations of consumers (Crilly, Good, Matravers, & Clarkson, 2008). As consumers differ strongly from designers in terms of expertise and interactions with products, consumer response may deviate from design intentions (Crilly et al., 2008). The success of design largely depends on the extent to which consumer response correspond to design intentions (Crilly et al., 2009). Previous studies have compared the differences between designers' intentions and consumer response quantitatively (Ahmed & Boelskifte, 2006; Hsu, Chuang, & Chang, 2000; Khalaj & Pedgley, 2014). In contrast, we will take a qualitative approach, which will provide additional insights into why certain design intentions are formed and why consumers form inferences in certain ways.

3. Study 1: Design Intentions of Applying Transparency in Product Innovations

3.1 Method

Participants

In-depth interviews were conducted with six experienced industrial designers. All participants had multiple years of practical experience (ranging from 10 to 20 years) with designing consumer durables. Through their expertise, they were equipped with the knowledge to explain how different materials are selected to fulfill certain intentions.

Stimuli

Through extensive Internet research, more than 100 products were collected, which partly or fully used transparent or translucent materials. The initial set of product examples was firstly reduced by deleting similar product innovations. Next, because the focus of this study was on understanding the application of transparency in product innovations, all selected product examples incorporated either incrementally or really new technology that can complicate consumers' comprehension of the product and its benefits. For instance, a transparent chair was not selected because such an innovation is unlikely to cause difficulties in consumers' comprehension of the product. Consequently, 32 products from a diverse range of product categories were included as final stimuli (see appendix). Some of them were more mature products, while some were still in a conceptual stage. For some examples (e.g., No. 21), transparency was a standard feature, while it was an innovative feature for others (e.g., No. 20). The inclusion of different kinds of product examples allowed us to explore the different possible ways of applying transparency in product innovations.

Stimuli were presented as cards including picture(s) of the product in colour and the name of the product category. The size and quality of the pictures were standardized. The brand logo was digitally removed. If a product example was very innovative, and potentially unfamiliar to participants, the key features were listed as well.

Procedure

Participants were invited to an enclosed meeting room individually. The interviews started with the warm-up question "during designing, when would you consider using transparent materials in product design?" In further probing questions, participants were triggered to talk about the different purposes and intentions of using transparency. Subsequently, participants were asked to do a categorization task. Stimuli were presented to them in random order. They were asked to categorize all 32 stimuli into different groups based on the underlying intentions of using transparency in these designs. After they finished the categorization, they were asked to label each category with an explicit name that illustrated the different intentions. They were also asked to explain this name and why certain stimuli belonged to the same group. During this process, participants were allowed to make changes in their categorization. The final categorizations were photographed. The complete interview took 50-120 minutes. After the categorization task, participants were asked to indicate other interesting examples of applying transparency.

3.2 Results

It took some revisions and refinements for participants to make the final categorizations. For some stimuli, participants mentioned that they were not sure about designers' intentions of using transparency. They considered them designers' personal choices, or the decisions made by manufacturing availability.

All interviews were recorded and fully transcribed. A content analysis was conducted by using the software ATLAS.ti. First, participants gave the general opinions of transparency. They explained the different visual impacts created by transparency: "there is a spectrum, you can have something really milky, crystal, and also there are colours involved" and the unique characteristic of transparency was see-through, which allowed more information and showed something. When discussing the intentions of applying transparency in product innovations, participants mentioned multiple reasons of using transparency. Specifically, participants stressed that because using transparency would increase the manufacturing cost, there should be strong motivations of using it during designing. In some cases, when product functionality required see-through, using transparency was the only choice, such as a display and camera: "Here, this one [No. 24] is purely protection. It needs to protect the camera inside, and it has to be transparent to make the camera work." In addition, other considerations included manufacturing availability, cost consideration, and alignments with brand strategy.

Next, by categorizing product examples, more insights were collected in terms of specific design intentions of using transparency in product innovations. Five different intentions emerged from the analysis: influence look and feel, communicate information regarding product operation, demonstrate technology, show working process, and influence consumer experience.

Influence look and feel

Transparency can create different visual impacts for product innovations. Participants mentioned that transparency can enhance the aesthetic values of products, through improving aesthetic richness, breaking the monolithic look of a product, and creating contrasts. By using transparency, designers expected that products looked interesting, fancy, trendy, and modern. One more reason of using transparency was that it had not been used in the product category thus far. Then, using it could make the product novel. Furthermore, participants would use transparency to express the symbolic meaning of the product, as mentioned by one participant in No. 20, "They are more showing the nature of the product itself ... some products related to power, to air, to greenness."

Communicate information regarding product operation

Communicating information regarding product operation was one benefit of using transparency that most participants mentioned during the interviews. Specifically, the communication of information regarding the product's operation included the following aspects: 1) communication of the product's operation mode; 2) communication of

immediate feedback regarding the product's operation; and 3) communication of the outcome of the product's operation. Through communicating these three types of information, participants expected the products to be more usable and interactive.

In terms of communication of the product's operation mode, the underlying design intention entailed informing consumers whether the product is working or not: "It [No.18] tells you that I am working, I am in the process." One more important design intention was to communicate immediate feedback regarding the product's operation, including whether the product had done its work or not and how much work had been done. Through communicating the immediate feedback, the intention was to provide suggestions on how to further use the product, as mentioned concerning No. 5, "You get information. When you're ironing, you get wrinkles. If you are ironing again, it makes it even worse. With this, you can make the process better." Providing immediate feedback aimed to allow consumers to use the product in a customized way, which was expected to have a positive influence on consumer experience, as one participant explained No. 21 "If you have this toaster... you get your bread out just at the time that looks right for you." Another design intention of using transparency was to communicate the outcome of product operation, as one participant explained "We need users to see through what is being operated... the result of operation" (No. 11).

Demonstrate technology

Products often compete on technological performance (Crilly et al., 2009). Designers considered using transparency as a way to demonstrate the adopted technology. Two kinds of technology demonstrations were identified. When the technology is common, designers use transparency to indicate this is a new version, as with No. 8 "try to show some novelty. They try to demonstrate their technology, but actually, they don't have really powerful functionality to make them transparent." When the adopted technology is very innovative, applying transparency can be an effective way to highlight the innovativeness of the advanced technology:

"[When] some new technology or powerful technology inside the product, you want to show. Using a transparent part is a way to show that you have something new, a powerful processor in the case of PC [No. 10]; a powerful suction system in the case of Dyson [No. 12]".

To demonstrate technology through transparency, transparent parts show the internal components to consumers. Companies need to pay additional efforts and costs to design the internal components to make them look organized and attractive to consumers, as expressed by one participant "This is their strategy [to show the internal structure] ... it is expensive. If you want to people to see, it means that the internal components should look beautiful (No. 12)." Thus, exposing internal components through transparency can also become a way for companies to demonstrate their technological abilities.

Show working process

Another design intention of applying transparency in product innovations was to directly show consumers the working process of mechanical components within the product. By showing the working process, designers expected that this can facilitate consumers' comprehension of products, especially for products with innovative functions, "By looking at this area, you know what is going [to be] inside ... by seeing it, users can understand." Using transparency can also allow users to see the process of transformation, which may enrich users' experience:

"It tries to show the whole process of making ice coffee. Using transparency is great ... [it can] also have [an] ultimate effect on people to see the fun part of it, to enjoy" (No. 25).

Showing the working process of products relates to the design intentions Communicate information regarding product operation and Demonstrate technology. When consumers see the working process, they will also gain immediate feedback of the product operation and probably form perceptions on the effectiveness of adopted technology. However, we considered showing working process as an independent design intention because participants' primary intention was to facilitate consumers' comprehension, which was different from the intentions of demonstrating technology and communicating information regarding product operation. During interviews, participants highlighted the difference of showing the working process as a different intention: "this is the most typical one [No. 25] ... this is absolutely about showing the whole process ... These ones [No. 11, 28] are purely getting to know, being informed".

Influence consumer experience

Participants considered transparency as a way to influence consumer experience. Specifically, designers intended using transparency to influence users' experience in the following way: trigger emotional experience, enrich consumer experience, and project novel experience.

Participants mentioned that transparency was one way to trigger emotional experience, "This [No. 32] is about creating emotional experience. Transparency is an access ... insert of emotional experience." Participants expected that consumers will have an intimate experience. Transparency can also create a rich experience. For instance, in the case of stove (No. 20) and toaster (No. 31), using transparency triggers consumers' visual experience, as expressed by one participant "Those three are intangible value, they gave richer user experience. So only by looking at how it works, it can create a feeling of "oh, it is beautiful" ". In addition, transparency can project a new experience. When transparency was never used in the product category, using transparency can be a good way to project a new experience, as expressed by one participant: "although it [No. 23] looks like No.10 ... but at that time, it is totally revolutionary. Because designers really want to deliver [an] artistic statement, we would like to use another perspective to see personal computers."

3.3 Discussion of Study 1

In Study 1, we provided an overview of five different design intentions of using transparency in product innovations. This overview can guide designers while embodying product innovations to make more informed decisions of using transparency. A limitation of study 1 was the exclusive focus on designers' intentions. Because designers and consumers perceive products differently (Blijlevens, Creusen, & Schoormans, 2009), it would be biased to only consider designers' intentions and their expected consumer experience without exploring consumers' actual experience. Study 2 aimed to validate the findings from study 1 by examining whether consumers understand designers' intentions and to extend the findings by exploring how consumers respond to transparency in product innovations.

4. Study 2: Consumer Response to Transparency in Product Innovations

4.1 Method

Participants

In-depth, semi-structured interviews were conducted with 13 consumers (6 male, 7 female; mean age=34.15). Because age was considered to influence consumers' acceptance of product innovations (Loudon & Bitta, 1993), we selected consumers who are younger than 55 years old as participants.

Stimuli

To make the interview feasible for participants, 16 product examples were selected as stimuli materials in study 2 (see Appendix). These stimuli were selected from the 32 stimuli used in study 1. Based on study 1, product examples that were considered as designers' personal choices were excluded. From each design intention, the most typical product examples were selected. The selected product examples covered different product categories, and differed in innovativeness level.

Procedure

First, participants were presented with the 16 product examples and asked to talk about their general opinions and feelings towards these products. All stimuli were randomly presented to participants. The first part aimed to familiarize consumers with these products. One general question was proposed "how do you feel about this product in general?" followed by a probe question, with the focus on product design "what do you think about the design of this product?" In the second part, participants were specifically asked about their opinions and feelings towards the transparent parts in the products. They were asked "how do you feel about the transparent parts in this product?" and "could you think of several pros and cons of involving transparent parts in this product?" The interviews took 40-90 minutes.

4.2 Results and Discussions on Study 2

All consumer interviews were fully transcribed and analysed using ATLAS.ti. Five themes emerged from the data analysis: more aesthetically appealing, better ease of use, more effective, better comprehension, and rich experience. One of the goals of study 2 was to examine whether consumers could read the information that designers intended to express. This objective was met satisfactorily. Although consumers understandably took a different perspective on the value of transparency, we could easily relate five consumer themes to the uncovered design intentions in study 1. Another goal of study 2 was to extend the findings through further understanding how consumers respond to transparency in product innovations. This was achieved through exploring new insights provided by consumers in terms of why they thought that transparency created certain feelings.

More aesthetically appealing

With respect to transparency in product innovations, participants firstly mentioned how they felt about the looks of the transparent parts. Participants reported the transparent parts were attractive in general and thus influenced their aesthetic experiences. The symbolic meanings they mentioned included: nice-looking, high-end, cool, novel, unique, light, thick, fashionable, etc. These described feelings corresponded to the design intention: influence look and feel.

Better ease of use

With regard to the design intention Communicating information regarding product operation, participants were able to read information regarding product operation through the transparent parts. Participants mentioned that transparency allowed them to see the current situation, see outcomes of and changes during product operation, which allowed them to operate the product in a customized way. As designers expected, consumers claimed that seeing the information regarding product operation made them feel that the products were easy to use, "I feel it is good. For soy milk maker [No.6] ... it is better to see the situation inside. It is convenient for preparation." Consumers also mentioned that products with transparency were easy to maintain, because transparency reminded them to clean the product frequently and enabled them to easily detect problems: "[for] the coffee makers [No.25] ... I can monitor: whether the filter should be changed? Is any part blocked?"

Providing information is crucial for consumers' adoption of innovations (Ram & Sheth, 1989). Talke and Snelders (2013) demonstrated that technical information is the most effective to influence consumers' adoption when it is delivered in a detailed, tangible and specific manner. Corresponding to this finding, our results show that using transparency is an effective way of communicating technical information. Through transparency, consumers can gain positive perceptions of product innovations, such as easy to use or maintain, which positively influences consumers' adoption of product innovations.

More effective

Corresponding to the design intention Demonstrating technology, participants reported that they tended to perceive products with transparency to have better performance than products with opaque covers. Consumers mentioned that seeing the internal components of products made them feel that the products were more high-end and expensive, because the requirements of products seemed to exceed the product appearance. As one participant expressed: “it will improve the position of the products in my mind ... I would feel that the product not only pays attention to its look.”

As relative advantage relates to consumers’ adoption of innovations positively (Rogers, 1995), designers often use product appearance to highlight the underlying technology and demonstrate the effectiveness of product performance (Crilly et al., 2009). Previous studies have explored that a novel product appearance (Mugge & Schoormans, 2012) and designing products with a business-like personality (Mugge, 2011) can demonstrate product’s performance. Our results suggest that designers can also consider using transparent covers to demonstrate product performance and thereby increase the product’s relative advantage.

Better comprehension

Consistent with the design intention Showing the working process, participants confirmed that they gained better comprehension through seeing the product’s working process, because it was direct and intuitive: “It helps me [to] understand the function to some degree. It is very intuitive ... if [a] salesman introduces this product to me, I understand it as soon as I see it.” Especially for RNPs (e.g., No. 24), seeing how the product functions can help consumers to imagine how the new technology worked and identify the advantages of the product, which can improve comprehension.

The importance of increasing consumers’ comprehension of product innovations has been highlighted in prior research (Reinders, Frambach, & Schoormans, 2010; Talke & Heidenreich, 2014). Recently, the role of product appearance, and specifically the effect of visual complexity, on consumers’ comprehension of product innovations has been demonstrated (Cheng & Mugge, 2015). Our results extend this stream of research by showing that seeing how the product functions through transparency is one more way to improve consumers’ comprehension.

Rich experience

Designers intended to use transparency to trigger emotional experience, enrich consumer experience and project novel experience. These intentions were successfully recognized. In study 2, participants mentioned some additional experiences that were triggered by transparency: a sense of engagement, a sense of achievement, a sense of control, a sense of relief and a sense of discomfort, which contributed to consumers’ aesthetic experiences.

When seeing how the product functions, participants had a sense of engagement because they were involved in the process, as expressed by one participant:

“It [ordinary coffee maker] feels like a black box. I only know I should put coffee beans or [a] capsule inside and coffee will come out automatically ... This coffee maker makes me see the whole process very clearly...I feel a strong feeling of engagement. I feel like I made this coffee by my hands.”

As consumers were more involved in the coffee making process, they gained a sense of achievement because they were involved in the making process: “I feel [I] can see coffee going down drop by drop into drinks, I have a sense of achievement.”

When seeing the working process of products, participants mentioned that they had a sense of control: “while cooking, people need to see inside to cook delicious things, because you can control ... to see if anything is not good, to stop immediately (No. 24).” In addition, seeing internal product components can make consumers feel relieved. The importance of a sense of relief for RNPs was pointed out by participants, “it is a fryer, using new technology ... If it uses [an] opaque cover, as frying requires a very high temperature, I am worried that it will explode ... By making it into [a] transparent [cover], I feel it is safe, I feel relieved.” As a result, consumers tended to consider the product and the brand as more trustable.

Consumers also reported some concerns of using transparent parts, which led to a sense of discomfort. The most frequently mentioned concern was vulnerability. Participants mentioned that they felt these products would easily break down and wear out, as one participant mentioned in No. 32 “I feel there should be one base, or something under the light ... [otherwise] it will be very easy to break down and very easy to wear out.” When products dealt with high temperature (e.g., No. 16, 20, 24), participants were also worried about whether transparent materials were safe enough. However, one interesting finding was that vulnerability was not always related with negative experiences. It could bring a positive experience when used properly. For example, in the case of the light (No. 32) and coffee maker (No. 25), participants mentioned “I feel [that] the vulnerable glass makes me treasure it more. The crystal plastic or glass would feel great.”

Summarizing, our results reveal different consumer experiences triggered by transparency (i.e., a sense of engagement, achievement, control, relief, discomfort). Although experiences mentioned by consumers corresponded to the design intention of influence consumer experience, it also related to other design intentions. For example, in the case of the coffee maker (No. 25), a sense of engagement that consumers reported was evoked through seeing how the coffee was made. In other words, although the design intention of influencing consumer experience was prominent, other design intentions (e.g., communicate immediate feedback regarding product’s operation and show the working process) are also involved to jointly trigger consumer experience.

5. General Discussion and Conclusion

In line with prior research (Cheng & Mugge, 2015; Mugge & Dahl, 2013), the present research explored the role of product appearance for influencing consumer responses to

product innovations. Specifically, this research extends previous studies by focusing on the value of transparency for product innovations. Five design intentions were identified: influence look and feel, communicate information regarding product operation, demonstrate technology, show working process and influence consumer experience. Results from consumer interviews validated the findings from the designer interviews. Consumers formed various inferences about transparency in product innovations: more aesthetically appealing, better ease of use, more effective, better comprehension, and rich experience (i.e., a sense of engagement, achievement, control, relief and discomfort). Findings from the designers' and consumers' perspectives indicated the value of transparency in product innovations. Transparency in product innovations contributes to consumers' aesthetic experiences by making product appearances more appealing and by triggering a rich experience. Moreover, transparency can facilitate consumers' comprehension and trigger consumers' product perception of ease of use and performance quality. Figure 1 provides an overview of our findings.

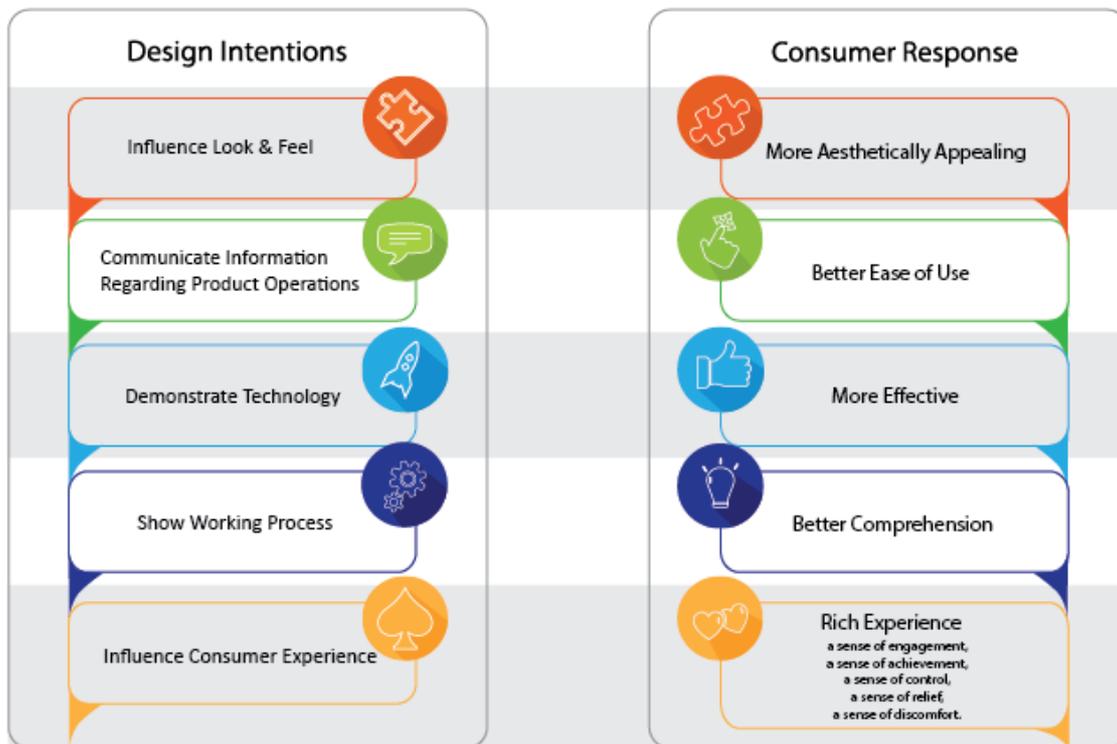


Figure 1. Relating design intentions and consumer responses to transparent parts in product innovations

For designers, it is important to focus on the design intention that is most prominent for the specific situation at hand. The uncovered design intentions weigh differently in different product categories. For instance, for product innovations driven by high technology (e.g., No. 24), the primary intention can be showing the working process to facilitate consumers' comprehension. Along with this primary intention, other intentions are selected, such as

communicating immediate feedback and demonstrating the innovative technology. In contrast, for innovative products driven by meaning changes (e.g., No, 25), the primary role of transparency can be in reflecting the meaning of product innovations. While designing, designers need to consider the type of product innovations and what consumer experience should be triggered.

There are different possible opportunities for future research. Firstly, because this study focused on the unique characteristic of transparency of providing more information, we selected a broad range of product examples. These product examples presented different levels of information. Among these product examples, some products included detailed technical information, while others included only limited information. It is possible that a high level of detailed information will confuse consumers, while a low level of detailed information is insufficiently effective to convince consumers (Fernbach, Sloman, Louis, & Shube, 2013). It would be interesting for future research to seek for an optimal level of presenting information through transparency. Secondly, this research focused on exploring the value of transparency, including the use of transparent and translucent materials in product innovations. However, the difference between transparent and translucent was not investigated because consumers were not able to articulate these differences during interviews. It could be interesting for future research to explore differences between both. Thirdly, this research followed a qualitative approach, to provide an overview of the roles of transparency for product innovations. However, it is likely that the uncovered consumers' perceptions are related to each other. For instance, a sense of control can contribute to consumers' enhanced comprehension. Future research could investigate these relationships, which would improve our understanding of the underlying mechanisms of how transparency influences consumer response.

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7. Appendix: Stimuli Used in Study 1 and Study 2

All the stimuli were used in study 1. The following stimuli were used in study 2: 4, 6, 9, 10, 11, 12, 13, 16, 18, 19, 20, 22, 24, 25, 31, 32.

	Product Examples	Source
1	Concept design of future smart phone	http://www.yankodesign.com/2009/08/18/phone-that-shames-the-weather-bureau/
2	Concept design of air cleaner	https://www.behance.net/gallery/17624391/Air-Purifier-cleaner
3	Concept design of USB memory stick	http://mac_fun.prosite.com/584/1007/gallery/funny-usb-memory-stick-concepts

4	Essential oil diffuser	http://zaq.com/dew/
5	IRON 725: Concept design of iron	http://www.yankodesign.com/2009/01/12/see-thru-iron/
6	Deer DR-021: soy milk maker	http://www.diytrade.com/china/pd/5758693/Soy_Milk_Maker.html
7	Konstruktor transparent collector's edition Lomo camera (display only)	http://shop.lomography.com/en/konstruktor-transparent
8	YANX wireless Bluetooth game controller	http://www.amazon.com/gp/product/B015S8MPWY/ref=s9_hps_bw_g63_i7
9	NiZHi TT-028: mini digital portable speaker	http://www.amazon.com/gp/product/B00CBD65WG/ref=s9_dcbhz_bw_d0_g422_i1_sh
10	In Win TOU aluminium frame PC chassis	http://www.techspot.com/review/794-in-win-tou/
11	Philips FC6130: handheld vacuum cleaner	http://www.philips.co.in/c-p/FC6130_01/minivac-handheld-vacuum-cleaner
12	Dyson DC 58: handheld vacuum cleaner	http://www.dyson.co.uk/vacuum-cleaners/handheld.aspx
13	Vicks V750: warm mist humidifier	http://vicks.com/en-us/shop-products/humidifiers-steam-inhalers/v750-warm-mist-humidifier
14	Dyson humidifier	http://www.dyson.com/air-treatment/humidifiers.aspx
15	Concept design of tablet	http://www.gizmocrazed.com/2013/02/this-stunning-ipad-concept-features-an-all-transparent-body/
16	Concept design of television	http://www.yankodesign.com/2011/02/03/look-carefully-it%E2%80%99s-a-transparent-tv/
17	Electrolux Green AC: concept design of air conditioner	https://www.behance.net/gallery/1157281/Green-AC-Electrolux
18	Dyson CR01 memory silver: washing machine	http://www.dyson.co.uk/support/cr01/cro1-memory-silver
19	Breville Crystal Clear: electrical kettle	http://www.brevilleusa.com/the-crystal-clear.html
20	Hase Asmara stove	http://www.boudrie-kachels-haarden.nl/hase-asmara.html
21	Magimix vision toaster	http://www.magimix.com/usa-canada/products/BREAKFAST/Toaster/Vision-Toaster/
22	Tefal ActiFry Family AH900233	http://www.tefal.com/Cooking-appliances/Fryers/ActiFry/ActiFry-Family/p/1500635312
23	Apple Mac G3: personal computer displayer	http://iphoneclub.hu/cikk/a-regi-idok-iphone-ja
24	OZAKI Olcare wireless camera	http://ozakiverse.com.cn/products/iphone_5_5s/ocare-ir001
25	Biduhaev cold brew system coffee dripper	http://www.biduhaev.com/
26	Stylepie EVE Ionizer power bank	http://www.style-pie.com/products.html#8
27	Lexon Flow FM radio	http://www.lexon-design.com/la94g5-flow-gris.html
28	kMix KMX51G Kenwood kitchen machine	http://www.kenwoodworld.com/en-int/products/kmix/kmix-kitchen-machines/kmix-stand-mixer-kmx51g
29	Philips grind and brew coffee maker	http://www.philips.nl/c-p/HD7765_00/grind-brew-koffiezetapparaat
30	Harman Kardon SoundSticks III	http://www.harmankardon.com/computer-speakers/SOUNDSTICKS+III.html
31	Philips SalonDry hairdryer	http://www.philips.co.in/c-p/HP4940_00/salondry-hairdryer

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