A methodology for Product redesign and design refresh

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Abstract:

Product designers seek to solve real problems for beneficiaries and users of their products using empathy, knowledge of potential customers' habits and behaviors, what hinders their use of products or what attracts them to them, as well as their needs and desires. Good product design practices stick to the product throughout the entire product life cycle. Product design is essential in creating the initial user experience and product presentation, from user research to concept development to prototyping and usability testing. But these practices do not end there, as product design plays an ongoing role in improving the customer experience and ensuring the addition of complementary functions and capabilities in a seamless and discoverable manner. Brand consistency and development remain a primary responsibility for product design until the end of the product's life. Each designer knows that he must constantly monitor his product and re-design it if necessary. Product design refresh means making visual or appearance changes that affect the appearance of the product while not changing the main ergonomic or functional elements of the product or the user experience structure. As for the re-design, the change is radical, beyond re-designing the visual and formal elements of the product or the so-called appearance of the product. The redesign is often aimed at simplifying the user experience, adding new features or functionality, and includes major changes to the product's structure and functionality and improving its ergonomics. Redesign usually involves significant changes in product packaging that result from changes in its shape and size. Research problem: The line between a design refresh and redesign is often blurred when the goal of an appearance update evolves into more massive and more impactful changes. If the changes made by the designer affect the look, function and functionality of the product then this will undoubtedly be considered a kind of re-design. The solution may be to clarify the differences between both processes in their objectives, results, and even procedures for each of them. The research question can be summarized in: How can designers benefit from updating and re-designing in reformulating products and building them in design and practicality by benefiting from the user experience? Research objectives: Preparing an applied methodology that takes into account the difference between re-design and design refresh in product design to achieve the best return in the product design process, as well as benefit from the review and analysis of user experience in a comprehensive and accurate way to find appropriate design procedures. Research Methodology: The study uses the inductive approach. The induction process in this study is based on the process of deriving a design methodology from multiple observations and readings and follow-up of designers while performing their work tasks. The importance of the research: This study worked to provide a logical scientific approach to the re-design process, which greatly benefits designers and design students, as there is no known design process for re-design, and designers often have to use traditional design processes despite the different purpose of the design and re-design processes design or update the design.

Keywords:

Product Design, Product Redesign, Product Design Refresh, User Experience

References:

- 1. W, C. Chang and Y. T Van (2003) Researching design trends for the redesign of product form, Design Studies Vol 24 No. 2 March 2003
- 2. Kevin N. Otto and Kristin L. Wood (1998) Product Evolution: A Reverse Engineering and Redesign Methodology, Research in Engineering Design (1998)10:226–243
- 3. Yong Se Kim 1, Kumiko Suzuki 1 and Seok Jin Hong (2020) Product Redesign for Service Considerations Using Affordances for Service Activities, Sustainability 2020, 12, 255; doi:10.3390/su12010255 www.mdpi.com/journal/sustainability
- 4. J Christopher Jones (1983) Continuous design and redesign, the Infotech conference on long-life software, London (December 1979). Republished in Design Studies, vol 4 no 1 January 1983
- 5. Rainer Stark, Thomas Damerau and Kai Lindowm (2018) Industrie 4.0—Digital Redesign of Product Creation and Production in Berlin as an Industrial Location, Challenges and Solutions for Digital Transformation and Innovation, In U. Sendler (ed.), The Internet of Things, © Springer-Verlag GmbH Germany 2018 https://doi.org/10.1007/978-3-662-54904-9_10
- 6. Nor Nasyitah Mohammad, M F Rosli, M K Fadzly, Nur Syaiyidah Mohamad Salikan and M S M Effendil (2020) Design for Manufacturing and Assembly (DFMA): Redesign of Joystick, , Conf. Ser.: Mater. Sci. Eng. 864 012212
- 7. M. D. Bovea & B. Wang (2007) Redesign methodology for developing environmentally conscious products, International Journal of Production Research, 45:18-19, 4057-4072, DOI:

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10.1080/00207540701472678

- 8. Michl, J. (2002). On seeing design as redesign. An exploration of a neglected problem in design education [2002], Scandinavian Journal of Design History. No 12 [2002]
- 9. Warren Kerley David C. Wynn, Claudia Eckert, and P. John Clarkson (2011) Redesigning the design process through interactive simulation: a case study of life-cycle engineering in
- 10. jet engine conceptual design, Int. J. Services and Operations Management, Vol. 10, No. 1, 2011
- 11. Shana Smith, Gregory Smith and Ying-Ting Shen, (2012), Redesign for product innovation, Design Studies Vol 33 No. 2 March 2012
- 12. Bruce A. Blonigen a, b, Christopher R. Knittel b, c, Anson So derb ery d, (2017), Keeping it fresh: Strategic product redesigns and welfare, International Journal of Industrial Organization, 53 (2017) 170–214 171
- 13. Bernardo R. De la Galaa, Patricia P. Zirenaa and A. Yuliana Arredondob (2020) Product redesigning, cost reduction, component substitution, and their influence in value management in micro and small enterprises, Management Science Letters 10 (2020) 1277–1286
- 14. Ryan Bradley, I.S. Jawahir (2017) Designing and Redesigning Products, Processes, and Systems for a Helical Economy, (16th Global Conference on Sustainable Manufacturing Sustainable Manufacturing for Global Circular Economy), Procedia Manufacturing 32 (2017) 168–175
- 15. Lisaa Delhi (2022), Difference between product design and product development, from, https://www.lisaadelhi.com/product-development-vs-product-design/
- 16. Lennie E. N. Lim (1995) Product Redesign as a Cost-cutting Tool for the Stamping Process, Journal of Engineering Design, 6:4, 309-314, DOI: 10.1080/09544829508907920

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