

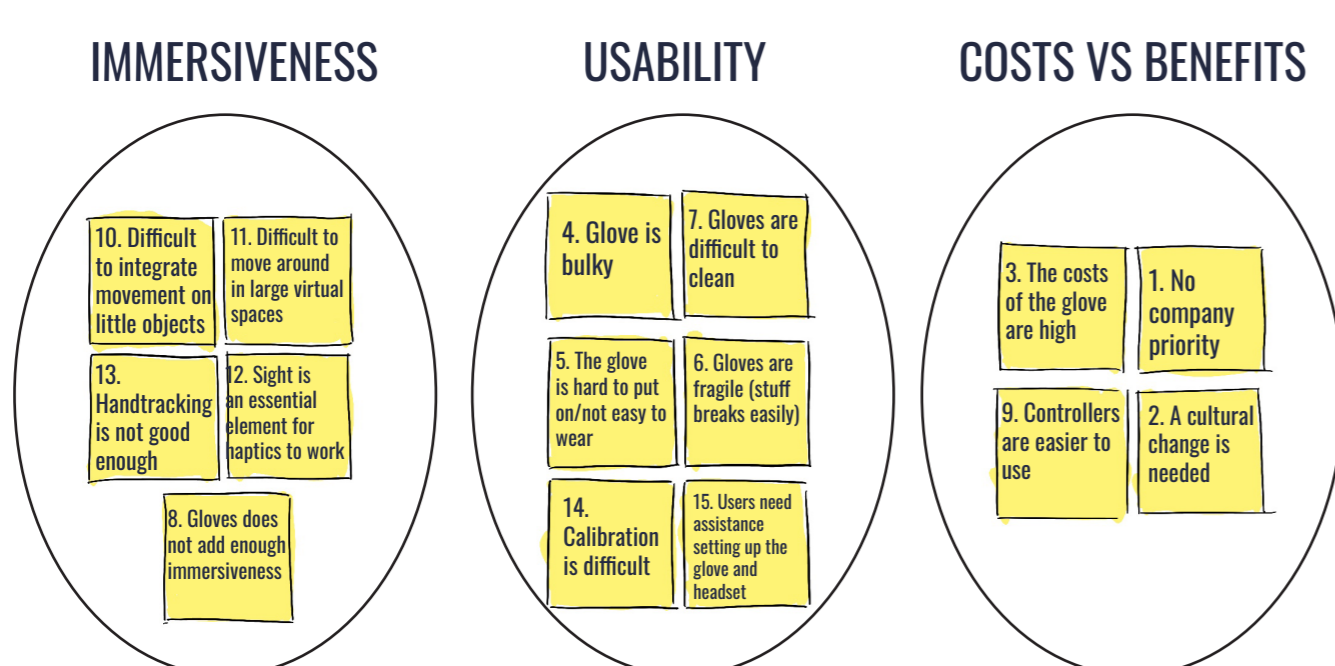
# CHALLENGES IN ADOPTION OF HAPTIC TECHNOLOGY THE CASE OF SENSEGLOVE

This thesis explores the integration of haptic technology in enterprise processes through the case of SenseGlove, a scale-up company based in YesDelft that produces haptic gloves. The study aims to identify the potential barriers and requirements for the enterprise's clients to adopt haptic technology and integrate it into their company processes. The research also investigates potential markets for SenseGlove's products, with a particular focus on the online meetings market.

Initially, the researcher intended to design a new use case for SenseGlove products. However, further research revealed that numerous ideas for haptic glove applications already existed. Recognizing the company's vision to enter the consumer market and become the mouse and keyboard of the future, the researcher decided to further investigate what could be a way for SenseGlove to accomplish this. Drawing upon the concept of prosumer products, exemplified by smartphones and 3D printers, the study explored four potential markets, ultimately selecting the online meetings market as the most promising through the application of Blue Ocean Theory.



1. No company priority
2. A cultural change is needed
3. The costs of the glove are high
4. Glove is bulky
5. The glove is hard to put on/not easy to wear
6. Gloves are fragile (stuff breaks easily)
7. Gloves are difficult to clean
8. Gloves does not add enough immersiveness
9. Controllers are easier to use
10. Difficult to integrate movement on little objects
11. Difficult to move around in large virtual spaces
12. Sight is an essential element for haptics to work
13. Handtracking is not good enough
14. Calibration is difficult
15. Users need assistance setting up the glove and headset



To assess the potential of haptic technology in online meetings, the researcher conducted an interview with a professional experienced in online and offline meetings and performed additional observational research. The findings, combined with an examination of market factors such as price and virtual/augmented reality, implied that it was not currently advisable for SenseGlove to enter the consumer market. The main argument supporting this vision is that peripheral products like haptic technology heavily rely on the development of the AR and VR markets, which have not yet had a breakthrough in the consumer market.

A pivotal aspect of the thesis involved an internal analysis of SenseGlove's Strengths, Weaknesses, Opportunities and Threats, uncovering an important issue: very few, if any, of the current clients integrated SenseGlove's product into their company processes. This discovery led to the formulation of the research question: "What needs to happen for enterprise clients to start integrating haptics in their company processes?" To explore this question, the researcher employed grounded theory, conducting qualitative research through interviews with 15 of SenseGlove's clients. By analyzing these responses a comprehensive list of 15 arguments was created, detailing the necessary product improvements for SenseGlove's clients to embrace their product. These arguments were subsequently clustered into three categories: immersiveness, usability, and costs versus benefits.

The final chapter of the thesis presents strategic recommendations in the form of a future roadmap for SenseGlove. This roadmap consists of three steps; step one focuses on encouraging adoption of the product, step two outlines strategies for establishing SenseGlove as the industry standard in the business-to-business haptics market, and step three explores entering the consumer market with a product specifically tailored for online meetings.

The findings of this thesis provide valuable insights for SenseGlove's future direction and development. By addressing the identified barriers and incorporating the recommended roadmap, SenseGlove can enhance its product offering, increase integration with enterprise clients, and potentially position itself as a leader in the haptic technology market.

**Horizon 1: Take your customer by the hand and make the innovation acceptable**

**Horizon 2: Further develop your product and wait for the market to mature**

**Horizon 3: Enter the consumer market through a strong collaboration**

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