

Post-Purchase Reviews: Owlet Smart Sock User Experiences

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Keywords: Owlet Smart Sock, Wearable technology, SIDS, UTAUT2

Sudden Infant Death Syndrome (SIDS) is the unexpected death of a seemingly healthy baby from an unexplained cause during the first year of life (Kinney & Thach, 2009, p. 1). In the United States, every year nearly 3,500 infants die from sleep-related deaths, which includes SIDS, ill-defined deaths, and accidental suffocation and strangulation in bed (Moon & Task Force on Sudden Infant Death Syndrome, 2016). Baby monitoring systems integrated with garments can measure vital biological signs of respiration, pulse rate, and/or blood oxygen saturation can help defend infants against SIDS and have recently been popular among parents (Bonafide, Jamison, & Foglia, 2017; Dangerfield, Ward, Davidson, & Adamian, 2017; Sportelli, 2017). Among commercially available baby monitoring systems, the Owlet smart sock is the most widely available and prominently used by parents (Hasan & Negulescu, 2020; Caron, 2019). In 2016, Owlet generated \$19 million in revenue (Bonafide et al., 2017; Sportelli, 2017). Interestingly, this smartphone-integrated baby monitoring device is not regulated by the US Food and Drug Administration (Bonafide et al., 2017; Sportelli, 2017). The Owlet smart sock is still highly popular among new parents, which begs the question, what motivates these parents to adopt this type of baby monitoring technology? And what product features most influence parents continued use and motivation to recommend Owlet to others?

Theoretical Framework

The current research utilized a theoretical framework that combined the Unified Theory of Acceptance and Use of Technology 2 (UTAUT 2) model (Venkatesh, Thong, & Xu, 2012) and the privacy calculus model (Dinev & Hart, 2006). The UTAUT 2 model explores why consumers adopt and use information technology products (Venkatesh et al., 2012). UTAUT2 is comprised of eight constructs which are explained in the next section (Venkatesh et al., 2012).

Performance expectancy is the measurement of one's enhanced expected effectiveness using the product (Venkatesh et al., 2012). *Hedonic motivation* is the pleasure resulting from the adoption of a technology product. *Effort expectancy* is the level of ease associated with adopting new technology. *Facilitating conditions* refer to training, guidance, infrastructure, and help-desk support provided by the manufacturer of the technology product or service. The benefits of using a technology assumed to have a greater perceived value than monetary cost have higher *price value*, which can positively influence behavioral intentions. Gained experience over time can lead to the formation of *habits*. *Social influence* occurs when individuals have a positive perception of a product or service and then influence others (Venkatesh et al., 2012).

According to the privacy calculus model, consumers conceptualize the risk-benefit factors during the adoption and use of technology products (Dinev & Hart, 2006). When a user's experience of a technology product surpasses the *perceived privacy risk*, the individual may consider adopting the product (Gao, Li, & Luo, 2015).

Method

To investigate, consumer review data were collected from the Owlet website and [Amazon.com](https://www.amazon.com) in October 2019. The researchers began by visiting the Owlet smart sock product pages on both websites and scrolling to the consumer reviews section of each webpage. Next, all consumer reviewers were copied into Nvivo 11 qualitative data analysis software. After collecting 450 consumers' online reviews, data were open coded using the software. The constant comparison method was chosen for data analysis in order to rectify themes, identify relationships, and discover the patterns of consumer behavior.

Results and discussion

The investigation of consumer comments unearthed many important findings of the Owlet smart sock. The thematic results of the analysis were then compared to the theoretical constructs of the UTAUT2 (Venkatesh et al., 2012) and the privacy calculus model (Dinev & Hart, 2006). The constructs will be discussed in the order of importance.

Effort expectancy constituted 26.32% (n=596) code references within the data and was the most important construct shown in figure 1. The most common effort expectancy phrases related to easy setup, fit, use, access, and troubleshooting procedures. Examples of reviews related to effort expectancy included, "I love how easy the app is to use!" (Cassady Brown). However, some consumers had negative comments related to using, setup, and access.

The price value was the second most frequently mentioned construct (21%, n=469 references) for the Owlet smart socks. Results from the analysis showed that most of the consumers felt the price of the Owlet smart sock was too high when compared to the perceived benefits. Perhaps the company could explore more options for pricing including rental periods or offering refurbished units to improve the price value.

Performance expectancy was the third most important construct with nearly 20% (n=437) of all comments. Positive online reviews on performance expectancy outweighed consumers' dissatisfied comments. Some consumers were disappointed with the inaccurate reporting of oxygen level, heart rate, as well as software malfunction, connectivity, and some reported shortcomings when measuring the health of premature babies.

Some consumers had *hedonic motivations* (18%, n=401) for using the Owlet smart sock. One consumer commented that "the sock helps me greatly reduce my anxiety for those few hours of sleep I can get" (Allison Novak). Hedonic motivation has a positive influence in determining consumers' acceptance and use of technology (Brown & Venkatesh, 2005).

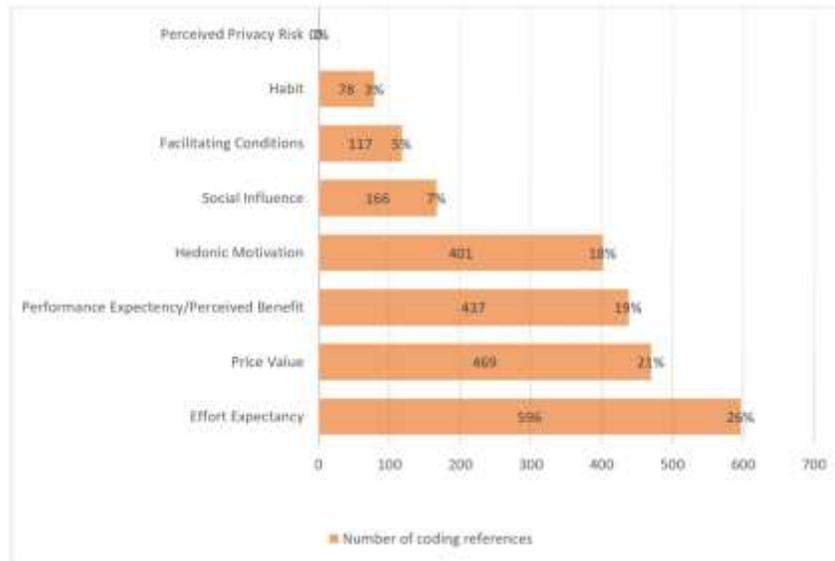


Figure 1. Constructs with number of coding references

Facilitating conditions consider how informative the product guidelines are, consumer training, and customer service outlets (Venkatesh et al., 2012). Owlet consumers give some mixed reactions to facilitating conditions. One consumer was satisfied and stated, "Customer service is top-notch!!" Researchers found a positive influence of facilitating conditions during the adoption and use of technology (Venkatesh et al., 2012)

The constructs like *social influence* and *habit* were not present or possible to gauge within the secondary data set. Surprisingly, there were no comments made related to *perceived privacy risks* as identified in the privacy calculus theory (Dinev & Hart, 2006). Perhaps the parents' lack of concern related to the privacy of health information is because the Owlet smart sock is a baby product and the data collected are fairly innocuous.

Conclusion

Some implications have emerged from this research. Owlet should put more emphasis on effort expectancy because technology products with less effort to set up and use are more likely to be adopted (Venkatesh, Morris, Davis, & Davis, 2003). Consumers were unhappy with frequent false alarms, and app freezing, which were found to enhance anxiety. Therefore, the company should focus on the appropriate functioning of the device. Reduction of the price with options like refurbished or second-hand Owlet smart socks may potentially help. When a price is seen as being lower than the perceived benefits the product is more likely to be adopted (Venkatesh et al., 2012). Future research should consider interviewing consumers to determine if the constructs not present in the online data (social influence, habit, perceived privacy risks) affect the use/adoption of the Owlet smart sock.

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