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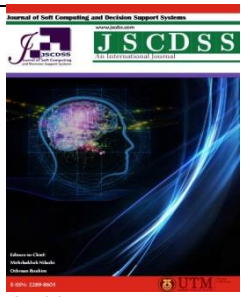

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# Evaluating User Experience in Home Health Software Applications: An Online Reviews Analytics Study

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**Abstract**
The growing population has increased the demand for people to benefit from home health care (HHC) agencies, therefore, raising the need to use home health software (HHS) products to improve the quality of service and management of HHC companies. HHS products play a key role in managing and scheduling appointments, which leads to saving time and improving the productivity of HHC companies. Analyzing online reviews of HHS products helps the decision-makers in improving their products which leads to more satisfied customers (i.e. HHC agencies) and increases the quality of the HHS applications. In this study, a total of 5338 online reviews were gathered from the SoftwareAdvise website using a customized crawler. After data preprocessing and imputation, machine learning (ML) techniques including the Latent Dirichlet Allocation (LDA) topic model were used to reveal the major topics that influenced the customers' perception. Self-organized maps (SOM) were utilized to segment the customers according to their ratings behavior which eventually led to six groups. Finally, classification and regression trees (CART) were used to predict customer outcomes based on criteria ratings. The results of this study revealed that customers have similar rating behaviors in terms of ease of use and functionality criteria in HHS. In addition, users of HHS were interested mostly in ten features including scheduling, management, support, privacy, integration, ease of use, accessibility, controllability, flexibility, and efficiency. These outcomes help researchers define their features while delivering surveys for evaluating customers' satisfaction with HHS products.

**Keywords:** Home health, online reviews, machine learning, customer satisfaction.

## 1. Introduction

The increasing ratio of the aging population has raised the need to employ home health care (HHC) and home health software (HHS) services in several countries to alleviate the pressure on the limited traditional medical model (G. Du et al., 2022). Especially during the COVID-19 pandemic, the health industry was back on its heels. HHC visits including doctor, nurse, prenatal care, and reproductive visits are fundamentally important to promote individuals' quality of life and well-being, especially for senior citizens (Koeleman et al., 2012; Pahlevani et al., 2022), patients with chronic diseases (Nilsson et al., 2023), and women. HHC organizations are growing over time, particularly in Europe and North America (Van Eenoo et al., 2018). For a brief period of time following hospitalization, HHC services offer nurse and/or treatment sessions to aid a patient's recovery at home (Russell et al., 2023). The majority of HHC beneficiaries are senior citizens (85%), have either four or more chronic illnesses (66%), and women (63%) (Bankole et al., 2023). About five million Medicare recipients got HHC services from more than 10,500 providers in 2019 (Bankole et al., 2023). HHC agencies provide health care services at either individuals' homes or home-like settings (Cappanera & Scutellà, 2015; Harrison et al., 2020). HHC agencies deploy HHS services to communicate with customers and schedule orders. These services are software applications or platforms designed specifically for HHC agencies to manage their clinical, operational, and administrative tasks. This indicates the importance of such services in alleviating the pressure on the management of the HHC workload. Consumers' purchase decision is heavily affected by online reviews (Eslami et al., 2018). Therefore, analyzing user-generated content (UGC) in HHS is essential to provide deep insights for the HHS owners to enhance their services according to the revealed customers' perceptions which leads to customer satisfaction.

The increasing number of HHC recipients raises the need to employ HHSs which are platforms that help manage the increasing data as well as mitigate pressure