IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 6, Issue 4, January 2026
Impact Factor: 7.67

A TSP Framework for Verifying Cosmetic Sustainability Claims on ONDC

Maitri More, Vaishnavi Rajput, Snehal Naik, Shruti Wawage, Prof. Parag Jambhulkar
Department of Computer Engineering
SCTR's Pune Institute of Computer Technology, Pune, India
maitrimoreofficial@gmail.com, vaishnavirajput273@gmail.com
snehalnaik139@gmail.com, shrutiwawagecm@gmail.com, pjambhulkar@pict.edu

Abstract: *The global cosmetics industry is experiencing a surge in sustainability and safety claims, often leading to greenwashing—the practice of misleading consumers with unverifiable labels like "organic," "paraben-free," or "eco-friendly." This paper presents a comprehensive survey of AI methodologies applicable to verifying environmental and safety claims. Our findings are structured to define the core technical requirements for a Technology Service Provider (TSP) aiming for network integration.We thoroughly review and synthesize literature concerning three critical areas: first, techniques involving Natural Language Processing (NLP) for extracting, classifying, and assessing textual claims; second, approaches leveraging Computer Vision (CV) for the automated detection and validation of visual certifications and logos; and third, methods for integrating chemical informatics and regulatory databases to verify ingredient-level safety. Furthermore, we propose a unified framework for synthesizing these verification outputs into an objective, quantifiable metric, which we term the Trust Score. This framework is discussed with a focus on its integration feasibility within the Open Network for Digital Commerce (ONDC) architecture.*

Keywords: AI Verification, Natural Language Processing, Computer Vision, Greenwashing, Cosmetics, ONDC, Trust Score

DOI: 10.48175/IJARSCT-31039