SPAM vs HAM: An Investigation of Deceptive Linguistic Cues in SMS

Stephen Jackson*, Nadia Vanteeva

University of Ontario Institute of Technology, Canada.

*Corresponding author

Abstract

The ability to distinguish between unsolicited messages (SPAM) and legitimate communication (HAM) remains an important area of research inquiry. Although SPAM can often be annoying for the specific receiver, it can have more serious consequences, including the theft of personal information, financial loss, and malicious attacks. These challenges are further exacerbated by advances in technology, including the use of GenAI and more sophisticated spoofing techniques, which can make it increasingly difficult to distinguish between legitimate and unsolicited messages. Despite progress being made, gaps remain in fully understanding the linguistic patterns that separate SPAM from HAM. Drawing on linguistic analysis and a theoretical lens based on deceptive impression management, this study aimed to capture the linguistic differences between SPAM and HAM in Short Message Service (SMS) text messages. An argument raised is that examining the linguistic cues in the message by the sender may provide insights into forms of deceptive behavior. Examining over 11,000 SMS messages (comprising both SPAM and HAM) and employing multivariate analysis, the findings reveal key linguistic differences, including, for example, the use of pronouns, authenticity, emotional expression, and other cognitive dimensions. The study contributes to the behavioral information security and impression management literature by analyzing linguistic cues to detect and unearth deceptive conduct. Several key learning points and implications for organizations are considered.

Keywords: Cybersecurity; Applied Linguistics; Impression Management, Deception.