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# Influence Maximization in Large Social Networks: Heuristics, Models and Parameters

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## Abstract

Online social networks play a major role not only in socio psychological front, but also in the economic aspect. The way social network serves as a platform of information spread, has attracted a wide range of applications at its doorstep. In recent years, lot of efforts are directed to use the phenomenon of vast spread of information, via social networks, in various applications, ranging from poll analysis, product marketing, identifying influential users and so on. One such application that has gained research attention is the influence maximization problem. The influence maximization problem aims to fetch the top influential users in the social networks. The aim of the paper is to provide a comprehensive analysis on the state of art approaches towards identifying influential users. In this review, we discuss various challenges and approaches to identify influential users in online social networks. This review concludes with future research direction, helping researchers to bring possible improvements to the existing body of work.

*Keywords:* social networks, structure, models, influential users, viral marketing, algorithms

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## 1. Introduction

With the advent of Web 2.0 came a range of applications that are used in many ways by people across different sections of the society. Social networks is one such application that played a very important role in connecting people across the world. It is not just a platform to share ideas, but also plays an important role in the economic growth. Social networks on the realm of crowdsourcing has been discussed by Gatautis and Vitkauskaitė [1]. They discuss how companies use their consumers to provide design inputs for their new products. Also, Whitley [2] discusses how consumers are employed to get new products and ideas into the market. Furthermore, Wilson et al. [3]

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