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Okke Formsma  
University of Amsterdam

June 18, 2012

# Abstract

The structure of social networks in which entrepreneurs engaged in are deemed critical to their performance. In this work we examine the network structure and characteristics of entrepreneurs on LinkedIn, Facebook and Twitter. Data was collected through a self-report survey that also collects the local neighborhoods for each entrepreneur on the aforementioned social networks.

We find that for entrepreneurs the degree distribution of LinkedIn and Facebook is not scale-free but rather exponential in nature. Earlier findings suggesting that entrepreneurs with a large network perform better than those with a small network could not be replicated. We do find that strong links (connections with high betweenness) on Twitter have a high chance to be present on the other two networks as well.

# Acknowledgements

I would like to thank Yang Song and Dr. Tsvi Vinig for the guidance they provided and the valuable discussions we had over the past months. I would like to thank Yang Song specifically for access to her dataset, and Dr. Tsvi Vinig for introducing me to the field of networks in entrepreneurship. Finally, I would like to thank Paul Voskuilen for the brainstorming we had over coffee.

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# Chapter 1

## Introduction

Online social networks (OSNs) are a widespread phenomenon; websites such as LinkedIn, Facebook and Twitter are ubiquitous. By explicitly listing the relationships between people, these websites give a unique insight in the social networks that exist in everyday life. This is not only interesting from a sociological viewpoint, but has applications in the research on entrepreneurial performance as well.

Before the emergence of online social networks, the networks of entrepreneurs were painstakingly mapped by conducting interviews. OSNs have made this process much easier, making much larger network studies feasible.

Network structure research has recently seen an resurgence with the advent of scale-free networks. Scale-free networks have specific properties which are often found in online social networks, such as having a small diameter (the small world phenomenon) and containing nodes that have a very large number of connections. The creation of a scale-free network is assumed to be preferential: nodes with many connections have a higher probability to attract new connections than nodes with few connections, leading to a rich-get-richer phenomenon. If a network is not scale-free, this assumption may not hold, and other mechanisms may form the basis of being well-connected in a network.

Because there are multiple online social networks available, it is interesting to see if they all have the same global structure. Also, it is a question which network is more valuable for entrepreneurs.

In this research we want to compare the structure of three online social networks of entrepreneurs: LinkedIn, Facebook and Twitter. We look at whether the networks are indeed scale-free. We present a method to find the profiles across different networks that belong to the same person. The overlap between the networks is scrutinized; we find that strong links have a higher chance to exist on multiple networks.