

Top Museums on Instagram: A Network Analysis

Vasiliki G. Vrana, International Hellenic University, Serres, Greece

Dimitrios A. Kydros, International Hellenic University, Serres, Greece

Evangelos C. Kehris, International Hellenic University, Serres, Greece

Anastasios-Ioannis T. Theocharidis, International Hellenic University, Serres, Greece

George I. Kavavasilis, International Hellenic University, Serres, Greece

ABSTRACT

Pictures speak louder than words. In this fast-moving world where people hardly have time to read anything, photo-sharing sites become more and more popular. Instagram is being used by millions of people and has created a “sharing ecosystem” that also encourages curation, expression, and produces feedback. Museums are moving quickly to integrate Instagram into their marketing strategies, provide information, engage with audience and connect to other museums Instagram accounts. Taking into consideration that people may not see museum accounts in the same way that the other museum accounts do, the article first describes accounts’ performance of the top, most visited museums worldwide and next investigates their interconnection. The analysis uses techniques from social network analysis, including visualization algorithms and calculations of well-established metrics. The research reveals the most important modes of the network by calculating the appropriate centrality metrics and shows that the network formed by the museum Instagram accounts is a scale-free small world network.

KEYWORDS

Communities, Followers, Following, Instagram, Likes, Posts, Scale-Free Networks, Small Worlds, Social Network Analysis, Top Museums

INTRODUCTION

Instagram, the social photo and video sharing mobile application, now owned by Facebook, Inc., was launched in October 2010 (Gillen, Freeman, and Tootell, 2017) and since then it has enjoyed impressive growth. Instagram provides its users an instantaneous way to capture and share their life moments with their followers through pictures, videos and stories which can be edited with various filters, organized with tags and location information and accompanied by a textual caption (Weilenmann, Hilliman, and Jungselius, 2013). Nowadays Instagram community counts more than 800 million monthly active users, 500 million of daily active users and 300 million of Instagram Stories Daily Active Users (Aslam, 2018).

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As social media platforms are growing in popularity, organizations and corporations are moving quickly to integrate them into their marketing strategies (Constantinides, Romero, and Gómez Boria, 2018). Instagram and the other social media platforms provide to museums, galleries and other cultural institutions, new opportunities to widen the distribution of their cultural offer in ways that were unthinkable and accessible only in person before (Ciasullo, Gaeta, Monetta, and Rarità, 2015). Thus, social network platforms allow cultural institutes and museums to present their collections, demonstrate their core values, communicate their activities and exhibitions directly, reach people, increase public engagement (Spiliopoulou, Mahony, Routsis, and Kamposiori, 2014; Gonzalez 2017), connect with other museums, build relationships and establish networks (Lazaridou, Vrana, and Paschaloudis, 2015).

Museums are increasingly investing in human resources, money and time to create and maintain a high profile social media presence (Adamovic, 2013). However, up to now, little research effort has been devoted to investigate how museums are using Instagram in exploiting its features and possibilities with the existing studies mainly focusing on visitors (Budge, 2018; Budge and Burness, 2018; Suess, 2014; Suess 2018; Weilenmann, Hilliman, and Jungselius, 2013) and museum performance (Lazaridou, Vrana, and Paschaloudis, 2015), while the structure of Instagram virtual museum communities formed are under-studied. The paper at first investigates the use of Instagram by the most visited museums worldwide by recording and analyzing performance characteristics like number of followers, following and number of posts, and number of likes of the ten last posts. All indexes provide evidence of the popularity and the activity of the accounts.

Instagram users form social networks since an Instagram account (user) can follow the activity of other Instagram accounts (users). An Instagram social network is asymmetric (directed), in the vein that if an Instagram user A follows user B, B need not follow A back (Hu, Manikonda, and Kambhampati, 2014). Social network analysis can help to explore the nature of interconnected accounts (Wasserman, and Faust, 1994). Next, the paper performs a topological analysis of the network of the Instagram accounts of the most visited museums at two stages. At the macroscopic analysis museums' communication patterns are revealed. Park, and Jankowski (2008, p. 62) mentioned that, this is important, since "the discovery of information networks among web sites or among site producers through the analysis of link counts and patterns, and exploration into motivations or contexts for linking, has been a key issue in this social science literature." At the microscopic analysis of the network the study identifies the central accounts that may have important implications as they act as leaders where probably the most interesting conversation and exchange of information occurs. To our knowledge, no research on the study of the social networks formed by museum Instagram accounts has been reported, thus this paper attempts to fill this gap.

The rest of the paper is structured as follows. The next section presents a literature review on the use of Instagram by museums while the third section provides a short introduction to social network analysis. The fourth section presents the methodology applied and the fifth section discusses the findings of the study and more specifically the performance of the accounts, the macroscopic view of the museums' network and the node level analysis of the network. Finally, conclusions and limitations of the study are as well as future research directions are presented.

MUSEUMS AND INSTAGRAM STUDIES

Social media have enhanced the capability of museums to increase public engagement, build communities of interest around them, create "many-to-many" relationships, reach communities and individuals, connect with visitors in a more meaningful way, perform marketing activities, get more audience and communicate their exhibitions and activities (Angus, 2012; Fletcher, and Lee, 2012; Kidd, 2011; Langa, 2014; Osterman, Thirunarayanan, Ferris, Pabon, and Paul, 2012; Spiliopoulou et al., 2014; Tuğbay 2012). Few studies have focused on investigating how museums are using

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