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# DIGITAL CULTURE AND E-TOURISM

Technologies, Applications and  
Management Approaches



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# Chapter 1

## Social Network Sites (SNS) and Digital Culture: Developing the Online Strategy of the Panama Viejo Museum

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### ABSTRACT

*This chapter aims at building an analytical framework that expands the current scholarship on Social Network Sites (SNS) to the domain of museums. SNS are web-based services that allow their users to create public or semi-public profiles and use these to create lists of other users with whom they share a connection, with the possibility to make their networks visible to themselves and also to make these networks visible at various degrees of public access (boyd & Ellison 2008, 211). These technologies also allow for communication between members of a network within various degrees of control and privacy. The emergence and growing popularity of SNS, with examples of general public services such as Twitter, Facebook and MySpace, niche versions such as those allowed by the Ning platform, and the current trend of including SNS capabilities in media sharing services such as YouTube and Flickr, has brought to museums new opportunities and challenges to engage in dialogue and connect with a variety of publics. The chapter discusses ongoing research into the role online activities play in the communications and branding strategies of museums, and how theory and technology might be applied to develop an analytical framework for a specific case, the Panama Viejo Museum. The main question that the chapter addresses is how to measure the degree the use of Social Network Sites and their impact in the online practices of museums, and proposes as response a framework for museum SNS analytics.*

### INTRODUCTION

The development of communication channels between museums and their various stakeholders

has been a major concern for museums in the last few decades, as these institutions move away from a focus on the conservation of material culture towards a focus on their role as forums for the dissemination and negotiation of knowledge<sup>1</sup>. Museums are being encouraged to take on new

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roles, seek new audiences and become sites of debate and discussion even allowing multiple interpretations of the objects they hold. This process, however, is not without conflict and debate within the museum community. Although the use of Social Network Sites (SNS), web-based services that allow their users to create public or semi-public profiles and use these to create lists of other users with whom they share a connection (boyd & Ellison 2008, 211), to disseminate knowledge about collections, engage new users, and enhance dialogue and participation has begun in museums around the world<sup>2</sup>, not all museums consider it worthwhile<sup>3</sup>: concerns are being raised about intellectual property and security, issues of authority, and cost (time) vs. benefits of using SNS. This is understandable, as at the moment, the tools museums have to assess their online activities, including their use of SNS, provide limited information, and have not been conceived from analytical frameworks adequate to the needs of museums and other cultural institutions. The extent and rapidity with which the use of SNS is being incorporated into everyday life at a global scale and in particular amongst young people, however, makes the study of SNS of high relevance for museum practice and for the dissemination of digital culture online.

This chapter presents a framework for the assessment of SNS use and impact in museum communication, and collection dissemination practices. The chapter wishes to contribute to existing knowledge on SNS by exploring their potential use as a means to increase participation in museums. Given the identity building and preservation role of museums, research into how sensitive materials such as museum collections can be disseminated through SNS can provide insight into the intricacies of dealing with other culturally and socially sensitive types of information.

At the moment, museums and other institutions face increasing pressure to release their materials online. The levels of vulnerability of different collections and existing frameworks for preservation

need to be carefully considered when trying to meet the informational needs of diverse audiences online. Concerns with issues of gender, ethnicity, class and power in social structures that are already driving a great amount of recent scholarship on museums need to be addressed in evaluations of the impact of a museum's online activities and its use of new technologies such as SNS, as this has great implications with the democracy build-up function of museums.

This chapter presents a framework for Social Network Site analytics that will be applied to develop the online communication strategy of the Panama Viejo Museum. The project that the framework is related to is part of a larger project on museum SNS that I am currently developing in collaboration with Prof. Katherine Goodnow and Heng Wu at Infomedia, UiB. The chapter focuses in particular in the design phase of SNS analytics, as the implementation phase at the Panama Viejo Museum will begin in January 2010.

## **BACKGROUND**

SNS are currently being adopted by several major museums, such as the Museum of London, the Powerhouse Museum in Sydney, the Brooklyn Museum and the Museum of Modern Art in New York. Questions arise, however, as to how to understand the dialogue and connections that SNS are affording museums in regards to networked publics and mediated environments, and in relation to the take-up of dialogue as the preferred form of communication for museums<sup>4</sup>. In relationship to scholarship in the area of Social Network Sites (SNS) at international and national levels, while SNS have been around since the late 1990s, and began to receive massive attention by traditional media since 2003 (boyd & Ellison 2008, 216.), scholarship about SNS and museums is still limited. This has, however, begun to change. In 2008, NaMU, a series of conferences on National Museums in Europe, included a session at Leices-

ter University (UK) on museums and the internet in which academics and practitioners considered current developments of media delivery services with SNS capabilities, specifically with the case of Flickr (a photo sharing site that allows the creation of profiles, commenting, and other community-building activities). Likewise, the Museums and the Web Conference, a series of conferences that showcase research on the uses of new technologies in museums around the world, has recently included a number of contributions in this area.

In September 2009, the research group of which I am member at Infomedia UiB addressed SNS and museums with a seminar on “Museums in Dialogue: Engaging Social Media” seminar, a meeting that brought together museum scholars, practitioners, new media designers and members of social media sites to discuss the various ways in which museums could approach the use of these new technologies. Important issues that emerged during the seminar included dialogue as a form of inclusion, trust, specific proposals of uses of technology to enhance collaboration between the public and museums, and concerns about the management of collections and issues of ownership and authority<sup>5</sup>. Emerging also from this seminar was my own concern with creating a framework for evaluating the cost/benefit relationship of the use of SNS by museums, since one of the most frequent questions during the seminar was whether it was worthwhile or not for museums to invest resources (especially time) in these technologies, which led to the current proposed SNS Analytics framework.

Such a framework is currently being developed by museums such as the Powerhouse Museum in Sydney and the Museum of London (MoL). In the case of the MoL, Bilkis Mosodik, in charge of web development at the MoL, has published a number of posts at the museum’s blog describing her use of web analytics data on visitors to assess the performance of the MoL’s static pages versus that of its social media pages<sup>6</sup>. At the Powerhouse Museum, Sebastian Chan, writer of the Fresh +

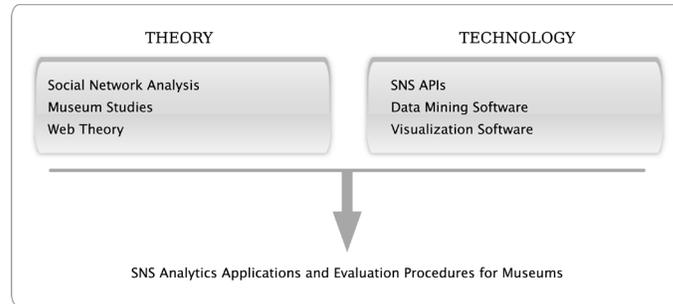
New(er) blog at the museum, has reported on his use of Google Analytics to assess issues such as recurring versus new visits at the museum’s website, and is currently involved in developing the museum’s online metrics<sup>7</sup>. In the following section, I present my own framework for SNS analytics that is being developed based on the needs of the project for the Panama Viejo Museum.

## **SNS ANALYTICS FRAMEWORK FOR THE PANAMA VIEJO MUSEUM**

Since the 1990s, museums in Panama have undergone important transformations in their missions and tone, in particular in what regards to representations of national identity. There is a clear break with the former programme for national museums that was enforced during the two decades of military dictatorship. This programme was based on defining ‘national culture’, and had as double purpose to legitimize Panama’s claims over the Canal Zone both to local and to international audiences, as well as consolidate the role of the military junta as the country’s driving force. The analysis of museums of recent creation in Panama points to a change from former attempts to build a national identity based on the common goal of sovereignty towards a more diffuse Panamanianess, where the goal is to present Panama as international, open, and rich in diversity and resources.

The Panama Viejo Museum is one of the Panamanian museums that has undergone major transformations during the last decade. The museum is dedicated to representing the arrival of Spanish explorers during the sixteenth century and the birth and development of the first Spanish settlement in Panama until today. Inaugurated in 2004, it is located at the western border of the Panamá La Vieja Monumental Complex, the site of the remains of the first settlement of the city of Panama founded in 1519, currently part of UNESCO’s World Heritage Sites.

Figure 1. SNS analytics framework components



In the Summer of 2009 I was contacted by Prof. Beatriz Rovira (Panama Viejo Museum’s Archaeological and Internship Program) in relation to the development of an online strategy for the Panama Viejo Museum, as well as additions to the physical permanent exhibition. The Patronato Panamá Viejo, a private-public board in charge of the museum and site, is currently working on making visits to the museum as attractive and meaningful as visits to the whole site, and would like to further disseminate its research online. Currently, the museum provides an online archaeological register, where visitors to the website can browse the collection and look at the results of current archaeological investigations. It counts with an online downloadable version of its scholarly journal *Canto Rodado*. At the moment the website does not incorporate the use of SNS. This has as advantage that the SNS to be implemented can be prepared so that it is possible to collect data for comparisons and analysis of the impact of the implementation of SNS as part of a museum’s online offer.

The framework includes the use of the following theoretical and technological components (See Figure 1).

The combination of Social Network Analysis, Museum Studies and Web Theory, in addition to practice-based research using SNS APIs, Data Mining Software and Visualization Software is planned to give as result a robust SNS Analytics application and evaluation procedure.

The framework further involves the following steps: 1) monitoring existing SNS and developing uses of SNS, 2) identifying audiences addressed by the museum through SNS, 3) analyzing current discourses around collections as found in the museum’s SNS, and 4) exploring the impact of these technologies through the creation of SNS analytics applications. These steps will run in parallel and feed upon each other.

### Step 1. Monitoring SNS

A number of specific SNS and sites with SNS capabilities have already been identified as relevant (Twitter, Facebook, Ning, Flickr, YouTube). The pace of change of these technologies and their ‘rise and fall’ cycles means, however, that the focus of SNS analytics must be in the types of services offered, and not in particular platforms. A review of SNS literature<sup>8</sup> also makes it apparent that it is important to understand how usage by museums and stakeholders has an effect features such as the type of profile metaphor (“Friend”, “follower”, “community member”, “user”), type of Computer Mediated Communication (CMC) supported (synchronous, asynchronous, CMC combined with other activity) (Sharp, Rogers & Preece 2007), and privacy and terms of service policies. Thus, a framework for SNS usage and analytics for this museum would ideally include a mapping and remapping at various stages the key features of the various commercial platforms

used and of services developed in-house where the museum offers its own versions of SNS.

The features for which data could be collected using participant observation and content analysis include:

- *Variation in number of profiles* that link to a museum's profile during the monitoring period.
- *Incidence of monologue, dialogue, or multilogue.* Includes whether museums participate themselves in a dialogue as members of online communities.
- *Category of information disseminated by museums and by stakeholders:* such as information about events, about the institution, about collections, surveys, labeling, metadata, and interpretive texts and highlighted collections, comments, discussions, requests for features, sharing of information on collections, suggestions for collection items, tagging, ranking, filtering.
- *Patterns of dissemination:* how many SNS does the museum use, are there different types of information for different SNS, and user's patterns of redistribution of museum information through SNS.
- *Control:* issues at play when opening participation to a broader range of stakeholders in dialogues about the collections and practices of museums through SNS, mechanisms of control and impact of these on equality of participation.

### Step 2. Identifying SNS Audiences

Data on demographics, market segments and entry/search patterns gathered at museum analytics tools could be used to identify SNS audiences. A specific concern here can be the types of ties (latent, weak, strong)<sup>9</sup> that museums can establish with their audiences through their use of SNS. Social science literature on social networks (Jackson 2008; Granovetter 1973, 1985; Scott 1991) and

results by Haythornthwaite (2005, 137), indicate that institutions or organizations facilitate the visualization of latent ties when they invest in technical infrastructure (e.g. a communication service) and make connections technically available. It is therefore plausible to assume that museum SNS profiles function as places to discover profiles of people with similar interests. In this sense, a methodological choice for the study of museum SNS could be to use focus groups identified through observations of "most similar" and "most different" SNS profiles. Surveys on the use of SNS could then be specifically targeted to these groups in order to identify the types of services or uses of these that have a positive or negative impact in attracting new audiences and in keeping current audiences, which includes privacy settings and provisions for vulnerability of systems.

This data could be gathered through museum website analytics and structured surveys collected through museum SNS, with Social Network Analysis conducted on the data (Jackson 2008, 371-458). Ideally it could include:

- *Demographics* (made anonymous, gathered in compliance with existing policies and ethical guidelines to protect the privacy of individuals).
- *Level of involvement* with museum SNS (roles).
- *Type of tie:* latent (linked profile), weak (linked profile, infrequent contributions), strong (recurrent visits, contribution to dissemination and development).
- *Conversion rate between ties* (from latent to weak to strong and vice versa). Procedures for measuring this conversion must be developed.
- *Incidence of breakup or strengthening of ties* depending on changes in SNS features or discontinuation of services.

### Step 3. Analyzing SNS Context (Discourses around Collections)

At present, the Archaeological Project of the site of Panamá La Vieja is one of the main efforts of the Patronato Panamá Viejo to reach the wider national community, and is the most developed section of the current website. To better understand the importance of further developing this online resource and enhancing the dissemination of this archaeological collection and investigations around it, a thorough understanding of the context of the site and its history up to becoming part of UNESCO's World Heritage is needed. Research conducted between 2006 and 2009 fits within this aim. Findings from this research show that the inclusion of the site in the World Heritage List has been vital for its financial viability and has allowed investigations beyond the colonial period. Rovira points out that in this way the denomination has enlarged the value of Panamá La Vieja by incorporating the Pre-Columbian period to its historical discourse<sup>10</sup>. Thus, an item that could be assessed during the development of the project is the way in which this specific information can be further disseminated through the use of SNS.

Other items to be analyzed through unstructured interviews with museum officials, random sampling of SNS texts, and critical discourse analysis (CDA)<sup>11</sup> conducted on the data include:

- *Institutional context*: views of SNS as positive / negative / neutral by museum officials and stakeholders. Assessment of risks of decontextualization. Challenges for the museum in terms of the voice that is adopted, e.g. the expectation from users to communicate with other individuals instead of with anonymous organizations in SNS.
- *Impact of political, social, and economic contexts*: impact of takeup of SNS by the museum in relation to the portrayal of these

technologies in news services or other public opinion media, impact of policies and funding on the takeup of SNS.

- *Conceptions of information*: What concepts of information on collections are at play (e.g. collections as common pool resource or as intellectual property).
- *Privacy, security, and trust*: provisions taken to secure the information disseminated through SNS.

### Step 4. SNS Analytics Application Development and Evaluation

A last step in this framework includes the development of analytics applications for measuring the impact of SNS usage by museums. Developing these applications includes the assessment of data mining tools, possibly also the selection of existing applications and development of mashup application using SNS APIs, and should contemplate heuristic and user-testing evaluations, walkthroughs and inspections of the mashup application.

Development stages can be summarized as follows:

- *Development of mashup application for mining SNS APIs*<sup>12</sup> combined with the analytical framework elaborated throughout the project to provide enhanced visualizations of network status, context and trends, for use by Panama Viejo Museum<sup>13</sup>.
- *Data Mining*: The data mining procedure for this project builds upon the standard CRISP-DM<sup>14</sup> approach, where I a) define and analyze the museum domain, b) gain insight into the issues involved with SNS data, c) prepare SNS data for our analysis, d) construct models for understanding SNS data, e) evaluate the models and f) prepare end user visualizations. Provisions for privacy issues build upon current Knowledge