CHARACTERISTICS AND PATTERNS OF BEHAVIOR IN VISITORS TO A MUSEUM WEB SITE

by John Chadwick

Introduction

As the growth of the World Wide Web changes how people access information and spend their leisure time, museum professionals need to learn about their new audience coming through the electronic doors, just as they attempt to learn and meet the needs of those who walk through the physical doors of the museum. Most of the literature in this area is of a philosophical nature. There are few empirically based studies on the nature of the Internet as an informal learning environment and characteristics and behavior of visitors.

This research project is an attempt to begin to answer questions about who is visiting a museum web site, why people are visiting a museum web site, and what on-line visitors do when they come to a museum web site. At the closing plenary session of the 1998 Museums and the Web conference, Greg Van Alystyne from the Museum of Modern Art called an on-line a museum a parallel museum. The results of this study suggest that some of the behaviors that take place in a museum may be observed in the behaviors of those visiting a museum web site. In particular, this paper explores the differences between group behavior and behavior of individuals visiting the web site.

Social context plays a major role in how visitors experience a museum, and individuals may have a different experience than those visiting as part of group (Falk and Dierking, 1992). Much has been written about how families and groups learn in a variety of situations, including museums. According to Hilke, "Scholars agree that a major function of the family is to support learning among its members. Whether called child rearing, socialization, acculturation, or education, the process of raising and nurturing children involves the transfer of information between all family members" (1989, p. 103).

How families and other groups are visiting museum web sites and their experiences is a question worthy of further research. One would expect differences in behavior between individuals and groups visiting a web site, just as one would expect differences between the two groups in the physical museum.

One of the most important findings from this research was that, like visitors to a physical museum, there were differences between the behaviors of individuals and those of groups visiting an on-line museum.

Subjects & Methods

Of particular concern to researchers trying to understand web site visitation are the problems associated with a self-selected sample and a proportionately low response rate. The population that participates in on-line surveys may not be representative of the population that uses the Internet or the museum web site (Chadwick, 1997). However, a promising example of an on-line study is a recent survey conducted by the National Aeronautics and Space Administration which offered a free photo from the Hubbell Space Telescope to be sent via U.S. mail as a reward. More than 70% of the visitors to the NASA site completed the survey (Kiernan, 1998, on-line).

A total of 348 respondents completed an on-line survey including some basic demographic questions, as well as a combination of open-ended questions, categorical questions, and five-point Likert-scale items. The survey was an adaptation of one conducted by Marilyn Hood that looked at why people did or did not choose to spend their leisure time at a museum (Hood, 1981). The survey also gathered data about prior knowledge and interest in the subject matter of the web site. Data was collected on-line and stored in a file on the web server located at the New Mexico Museum of Natural History and Science in Albuquerque. The survey was conducted from December 3, 1997, to February 8, 1998, at the New Mexico Museum of Natural History and Science web site.

The average age of the respondents was 41.08, with a wide variance that would be expected from a heterogeneous group and sample. This was similar to the most recent GVU study of overall Internet usage where the average age was 35.7 (Pitkow and Kehoe, 1997, on-line). More men (62.10%) than women (37.90%) completed the survey. These results are also consistent with the 1997 GVU survey where 38.50% of the respondents were female (Pitkow and Kehoe, 1997, on-line)

Results

There were several important findings in this study, but the focus of this paper is on what was learned about group behavior when visiting the web site. The majority of people visiting

the web site were visiting alone (69.80%), with 21.6% visiting as part of a group. Of those who visited as part of some sort of group, 41 respondents indicated that there were two people in the group, while 22 respondents indicated that there were three people in the group, as shown in Figure 1. This question may have posed some problems for respondents, since one person indicated that there were no other people in their group, and two people indicated that there was one person in their group.

An ANOVA was performed comparing people visiting the web site alone with people visiting the web site as part of a group. The total number of files accessed (hits) was the dependent variable. Those who were visiting as part of a group accessed more files than those visiting alone. The results of this ANOVA were statistically significant $F_{(1,348)} = 11.3076$, MSe = 344, $p < .05$. Groups were also more likely to visit more pages than individuals during roughly the same amount of time. Individuals spent an average of 20.78 minutes visiting the web site compared to 23.49 minutes for groups, a difference that was not statistically significant.

While both individuals and groups identify learning as a purpose for their visit, those visiting as part of a group are much more likely to say they are visiting to learn something (87%) than those visiting alone (73%). Only 8% of group respondents indicated they were visiting to browse through the web site, compared to 18% of those visiting as individuals. This is illustrated in Table 1.

Summary

This study has suggested certain differences between groups and individuals visiting a museum. Groups tended to access more HTML pages and access more files in the same amount of time as those visiting alone. This pattern of behavior needs to be studied further. If replicated, it may indicate that groups are more engaged in browsing behaviors, but it may also suggest a more focused search, moving more quickly through pages to find what they wanted. This is an important area for future research. We know that museums are social settings and groups influence how people behave in a museum. Exploring the group dynamics involved in museum web site visitation would make an important contribution to the field of visitor studies.

Another area of research could be in the gender gap. More men than women took the time to complete this survey, and the results are consistent with other on-line studies. Is there a real gap in the number of men and women using the Internet, or are men only more likely than women to complete an on-line survey?

Web sites offer a great opportunity for museums to present information: about their facility, knowledge about their collections, and artifacts in a new medium and to a new audience that is ready to learn. It is a promising area for research and for educating and communicating with our public.

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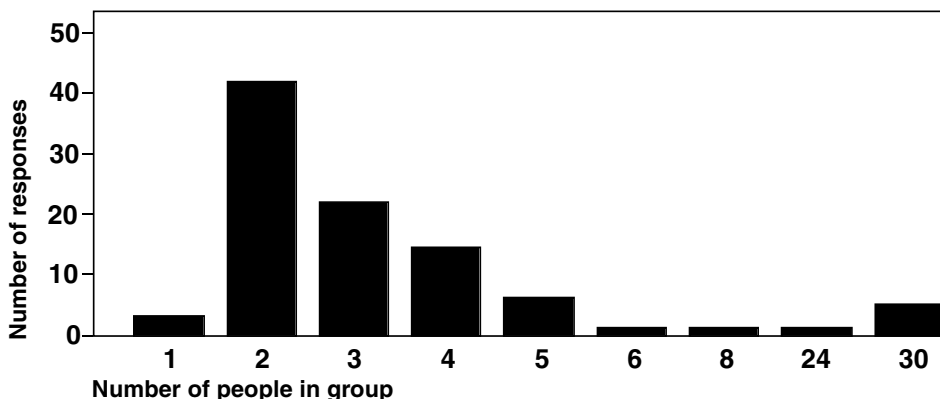
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Figure 1.

Table 1.
What is your main purpose for visiting the web site today?
Comparison between individuals and groups.

	Alone	Group
Browse	18% (44)	8 % (9)
Learn	73% (178)	87% (91)
Other	8% (20)	2% (3)
None	(1)	(1)
Total	243	104

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Adapted from a literature database created by the Museum Learning Collaborative at the University of Pittsburgh. If you have completed a thesis since 1995, please send the citation to **Visitor Studies Today!** *We will keep an updated list on our web site.*

PATTERNS OF BEHAVIOR IN MUSEUM WEB SITE VISITORS (CONT.)

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