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Creating a management friendly HTML report using SAS® ODS Markup, style sheets and javascript

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ABSTRACT

Multiple frequency and statistics tables are exported to HTML files using SAS® ODS (Output Delivery System) and are integrated into a single portable HTML document. Active links and embedded JavaScript menus facilitate easy access to over a hundred tables while a single cascading style sheet ensures a common display format.

INTRODUCTION

Government programs delivered at multiple locations collect data utilizing client questionnaires. After collection, the data are analyzed using SAS (or other software). The results are detailed in printed reports presented to various departments.

Reports generally include frequency tables showing the distribution of client responses at program locations. Tables of statistics for specific measures of interest are also included (by site).

We present an electronic report comprised of a single active HTML document . By using a common style sheet, active HTML and menu based navigation (Javascript), we are able to integrate the multiple individual HTML tables, as output from SAS, into a single portable easy-to-navigate HTML document. This document facilitates quick access to over a hundred frequency and statistics tables enabling the rapid assimilation of the presented data.

FREQUENCY DISTRIBUTION MAIN PAGE

PROC FREQ generates the distribution of client responses by site for each question for the categories: strongly disagree, disagree, neutral, agree, and strongly agree. The output files of PROC FREQ for all questions are merged into a single file. The SAS® TAGSET SLIDEBAR¹, defined by PROC TEMPLATE generates the interlocked slide bar shown on the frequency tables (fig 1). The different widths for each column (strongly disagree, disagree, neutral, strongly agree, agree) are the percentage values generated with PROC FREQ.

The STYLE.SURVEY¹ is defined by PROC TEMPLATE to establish the attributes of the style sheet (background color, foreground color for header and data, etc.) associated with each table containing the client responses (in percentage values) by site for each question.

The frequency distribution main page (fig.1) displays the questionnaire and the first of the visually enhanced frequency tables with interlocking slide bars.

Clicking on any question brings forward the frequency table for the selected question containing the distribution of client feedback for all sites. If we click question 6, we bring forward the distribution of client feedback for question 6 and we quickly perceive that the majority of clients at all sites strongly agree and agree (blue colors) with the question statement.

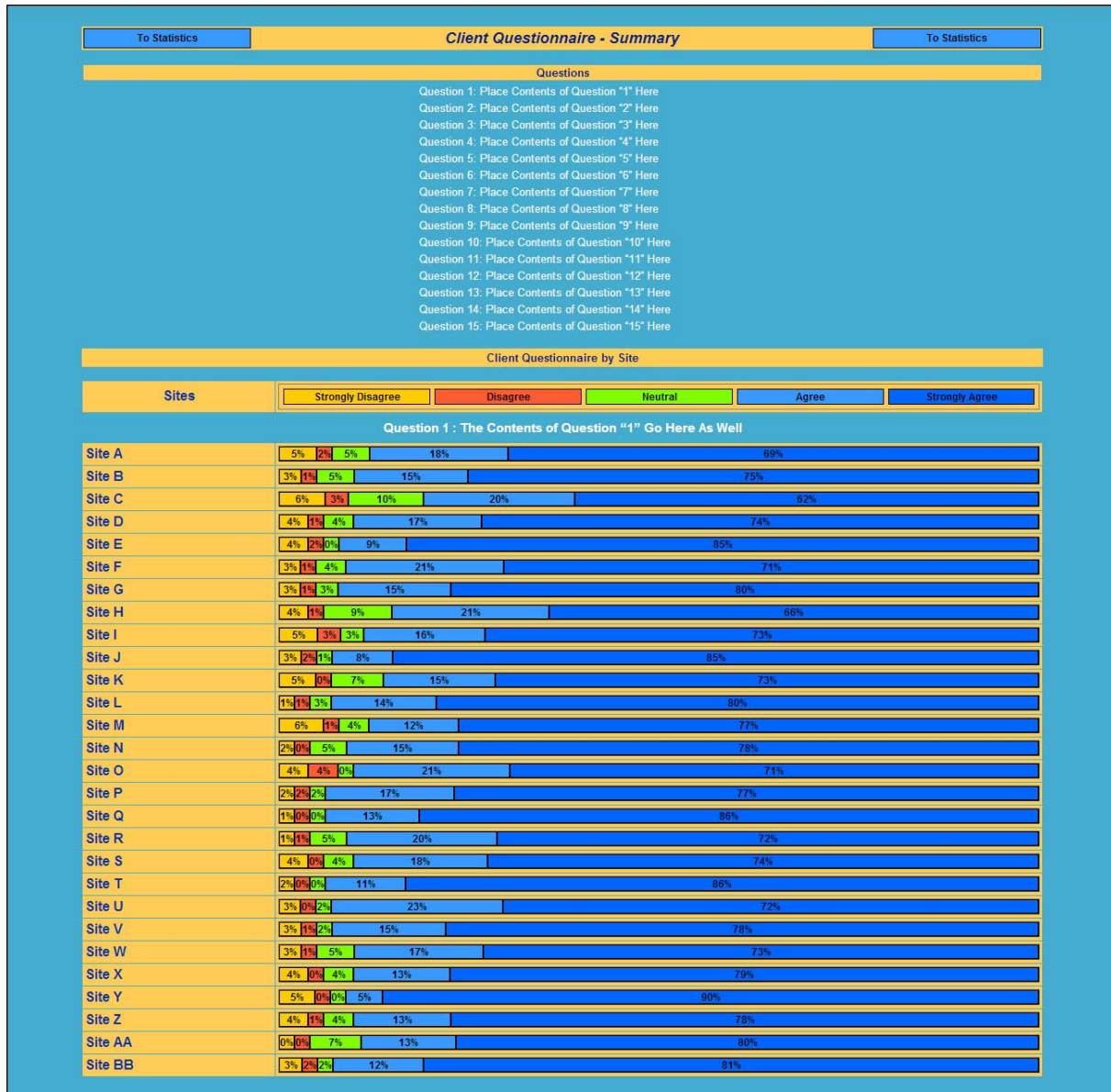


Fig.1 - Frequency tables of client responses by site with interlocking slide bars.

REPORT NAVIGATION

Links on either end of the report headers allow users to navigate between the frequency distribution main page (fig.1) or statistics main page(fig.2). The Client Questionnaire header displays "To Statistics" and clicking it brings forward the statistics main page.



The Client Report header displays "To Questionnaire" and clicking it brings forward the frequency distribution main page.



STATISTICS MAIN PAGE

The statistics main page (Fig. 2) displays a Javascript self-generating scroll-bar² matrix menu of multiple measures (width) by multiple sites (length) followed by the first table of statistics. Users can scroll through the matrix menu using the navigation tools on the right. From the top of the menu users can reach the bottom by clicking on [END]. If at the bottom of the menu, they can quickly go to the top by clicking on [TOP]. Clicking [PG DN] or [PG UP] moves through the menu a page at a time, and clicking on [DN] or [UP] moves a line at a time.

Clicking, on any measure for a site, for example Measure One and Site D, will bring forward the table of comparative statistics for that measure, for that site. The various statistics presented are compared to the region and state.

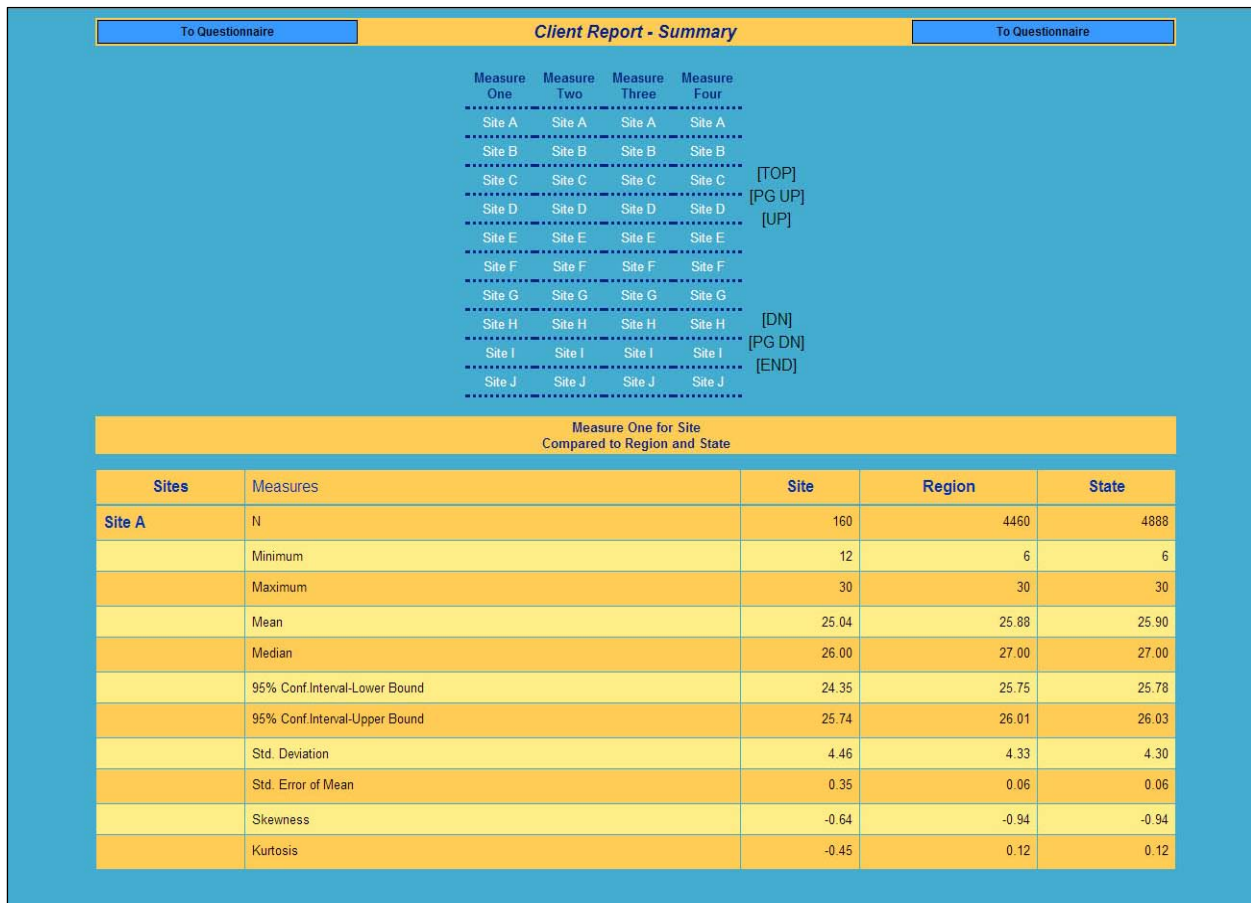


Fig. 2 - Table of descriptive statistics for measures one to four by site compared to region and state.

CONCLUSION

Through the use of a single common style sheet, active HTML and menu based navigation (JavaScript), we are able to integrate multiple individual HTML tables, as output from SAS®, into a single portable easy-to-navigate HTML document.

This resultant document supports quick access to any of the over one hundred tables contained within the report using any industry standard web browser (with DOM support).

By forgoing the use of images our active HTML document becomes truly portable. It can be e-mailed, viewed directly on a users tablet / desktop, or hosted on an Intranet / Internet.

ACKNOWLEDGMENTS

Special thanks to those who participated in the design of the presentation template. Additional thanks to those whose expertise facilitated: aggregating a common style sheet from the output of multiple SAS® tables, distilling the SAS® HTML tables into active HTML pages, the integration of JavaScript menus, the design of the web report.

REFERENCES

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2. Smith, Kevin. 2007. "Base SAS: The htmlscroll Tagset Creates Scrolling Tables" from <http://support.sas.com/rnd/base/ods/odsmarkup/htmlscroll.html>

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