From: John Sparks
To: Mr. Client
Date: September 2, 2008
Re: Analysis of Themes in Survey Data

This memo is in response to your request for an analysis of recent survey responses to identify the themes that exist in the data.

Factor analysis is a technique which finds themes that exist in the data by identifying survey responses that are strongly associated with those themes. Results of the factor analysis indicate that the themes in the data are:

- Engagement
- Size & Risk Assumption
- Prevention
- Expense
- Extraordinary Claims

The overall results from the factor analysis are shown on the table below. The numbers in the table indicate how strongly each question is associated with each of the five factors. These associations can vary from -100% to 100%. Numbers that have larger absolute values indicate that the question is more strongly associated with the factor. An analysis of each factor is provided on the following pages.

Detailed Results from Factor Analysis

	Weighting on Factor				
Survey Questions	1	2	3	4	5
Effectiveness: Q1	78%				
Effectiveness: Q2	76%				
Not shown	71%				
Not shown	66%				
Not shown	63%				
Not shown	62%				
Not shown	62%				
Total Employees		82%			
Q2. How much risk do you assume: All		80%			
Not shown		57%			
Not shown		52%			
Not shown		52%			
Effectiveness: Prevention Programs			67%		
Employee Importance: Prevention Education			56%		
Not shown			-56%		
Not shown			54%		
Not shown			53%		
Not shown			53%		
Number of Claims				68%	
Cost of Claims				67%	
Not shown				67%	
Not shown				52%	
Not shown				50%	
Priority: Extraordinary Claims					75%
Effectiveness: Extraordinary Claims					69%
Not shown					55%

Factor 1: Engagement. Partial output from the summary table as it relates to the first factor is shown below. This first factor is called Engagement because the questions with the strongest association with this factor had to do with how effective companies are at managing 'Item 1' and 'Item 2'. Other questions that had strong associations with this factor were ~~MORE ANALYSIS HERE~~. Because these questions all had to do with the extent of engagement the company had on this topic this factor was named Engagement. ~~{Note 1 Blank Space}~~

Survey Questions	Association
Effectiveness: Q1	78%
Effectiveness: Q2	76%
Not shown	71%
Not shown	66%
Not shown	63%
Not shown	62%
Not shown	62%

~~{Note 2 Blank Spaces to separate from what is to come}~~

Factor 2: Size & Risk Assumption. The questions associated with the second factor are shown in the table below. The question with the strongest association is Total Employees. The second strongest association has to do with how much risk the company takes on. The remaining questions~~… etc. etc~~. This factor was therefore called Size & Risk Assumption.

Survey Questions	Association
Total Employees	82%
Q2. How much risk do you assume: All	80%
Not shown	57%
Not shown	52%
Not shown	52%

Factor 3: Prevention. ~~Briefer analysis here. Show necessary figures~~.

Etc.

As demonstrated with the preceding analysis, the themes that are present in the data as detected by factor analysis are: Engagement, Size & Risk Assumption, Prevention, Expense and Extraordinary Claims.

The technical appendix to this document contains a discussion of the data preparation and statistical steps that were executed as part of the analysis.

Technical Appendix.

This appendix discusses the technical issues relevant to the factor analysis that is contained in the previous portion of the memo.

The analysis was based on a set of 30 surveys that were collected as part of etc., etc., etc.

The following data preparation and cleansing steps were executed prior to running the factor analysis:

Mean replacement was executed so that surveys that contained some missing data could still be used in the analysis. There were only approximately 30 surveys available for analysis and most questions had a relatively small proportion of missing data. Therefore, in order to not reduce the dataset available for analysis any further, non-responses were replaced with the mean of the distribution for the variable in question.

All variables were standardized to a mean of zero and a standard deviation of one. This was done so that variables with remarkably different scales would be able to contribute equally to the factor analysis.

Technical decisions relative to the factor analysis itself were:

Varimax rotation was used in order to create a set of factors with higher loadings for each variable and was therefore easier to interpret.

The number of factors was initially selected by retaining only those factors with an eigen value greater than one. This is identical to retaining only those factors that explain a disproportionately large percent of the variance of the dataset. However, the results from the initial factor analysis showed that some of the factors were redundant. Therefore, the number of factors was reduced to five and the figures from that factor analysis analyzed in the previous section of this memo.