Proposal:
Exception Prioritization by Utilizing Data Visualization

by: Abdullah Alawadhi
INTRODUCTION

• Firms deal with huge amounts of data, and the use of advanced analytics on a daily continuous basis is necessary to detect, and possibly prevent fraud.

• However, despite the use of such advanced techniques, large amount of exceptions are generated causing further investigation to be costly.

• These scenarios raise the question of how users can organize and make sense of the such voluminous data.
INTRODUCTION

• I propose to utilize data visualization techniques/tools in order to visualize detected exceptions, and ultimately help auditors gain insight and be able to pin point the more suspicious, and potentially fraudulent cases.
METHODOLOGY

• For example, let the sets and objects be as follows:

<table>
<thead>
<tr>
<th>SETS:</th>
<th>OBJECTS:</th>
</tr>
</thead>
<tbody>
<tr>
<td>User Profiling = {ID101, ID102, ID103, ID104}</td>
<td>Clustering = {ID103, ID106, ID107}</td>
</tr>
<tr>
<td>Clustering  = {ID103, ID105}</td>
<td>Expert System = {ID103, ID105}</td>
</tr>
</tbody>
</table>

• Sets are the different analytic tests being conducted
• Objects are the distinct records/transactions that are flagged based on the audit analytic tests
METHODOLOGY

Most suspicious exception (ID103) (Potential fraudulent case)

- In the case of our three sets, the intersection is record = \{ID103\}, hence this transaction will get more weight and will be ranked higher than the others
CONCLUSION

• The proposal is still a work in process

• I will attempt to utilize data visualization techniques in order to help identify the more suspicious exceptions

• I will also utilize different criteria, such as frequency and amounts for better identification