<table>
<thead>
<tr>
<th>Purpose</th>
<th>Rationale</th>
<th>Key theoretical sources</th>
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</table>
| **TRIANGULATION seeks convergence, corroboration,** correspondence of results from the different methods. | To increase the validity of constructs and inquiry results by counteracting or maximizing the heterogeneity of irrelevant sources of variance attributable especially to inherent method bias but also to inquirer bias, bias of substantive theory, biases of inquiry context. | Campbell & Fiske, 1959  
Cook, 1985  
Denzin, 1978  
Shotland & Mark, 1987  
Webb et al., 1966 |
| **COMPLEMENTARITY seeks elaboration, enhancement,** illustration, clarification of the results from one method with the results from the other method. | To increase the interpretability, meaningfulness, and validity of constructs and inquiry results by both capitalizing on inherent method strengths and counteracting inherent biases in methods and other sources. | Greene, 1987  
Greene & McClintock, 1985  
Mark & Shotland, 1987  
Rossman & Wilson, 1985 |
| **DEVELOPMENT seeks to use the results from one method to help develop or inform the other method,** where development is broadly construed to include sampling and implementation, as well as measurement decisions. | To increase the validity of constructs and inquiry results by capitalizing on inherent method strengths. | Madey, 1982  
Sieber, 1973 |
| **INITIATION seeks the discovery of paradox and contradiction,** new perspectives of frameworks, the recasting of questions or results from one method with questions or results from the other method. | To increase the breadth and depth of inquiry results and interpretations by analyzing them from the different perspectives of different methods and paradigms. | Kidder & Fine, 1987  
Rossman & Wilson, 1985 |
| **EXPANSION seeks to extend the breadth and range of inquiry by using different methods for different inquiry components.** | To increase the scope of inquiry by selecting the methods most appropriate for multiple inquiry components. | Madey, 1982  
Mark & Shotland, 1987  
Sieber, 1973 |

### Table 1

**Analytical Strategies for the Integration of Qualitative and Quantitative Data**

1. Data Transformation—The conversion or transformation of one data type into the other so that both can be analyzed together:
   - Qualitative data are numerically coded and included with quantitative data in statistical analyses.
   - Quantitative data are transformed into narrative and included with qualitative data in thematic or pattern analysis.

2. Typology Development—The analysis of one data type yields a typology (or set of substantive categories) that is then used as a framework applied in analyzing the contrasting data type.
   
   **Examples:**
   - A set of conceptual dimensions resulting from a factor analysis of quantitative data is incorporated into the categorical analysis of qualitative data (i.e., category development and coding).
   - A respondent or site-level typology resulting from analysis of qualitative data forms a “group” explanatory variable for statistical analyses of quantitative data (e.g., ANOVA, regression analysis) or, as another possibility, is combined with other quantitative explanatory variables for the statistical analysis of qualitative (categorical) data (e.g., logit analysis).

3. Extreme Case Analysis—“Extreme cases” identified from the analysis of one data type and pursued via (additional data collection and) analysis of data of the other type, with the intent of testing and refining the initial explanation for the extreme cases.
   
   **Examples:**
   - Extreme cases in the form of high residuals from a regression analysis of quantitative data are pursued via (collection and) analysis of qualitative data, the results of which are used to refine the original explanatory model.
   - Extreme cases identified from constant comparative analysis of qualitative data are further examined via analysis of quantitative data, the results of which are used to refine the original interpretation.

4. Data Consolidation/Merging—The joint review of both data types to create new or consolidated variables or data sets, which can be expressed in either quantitative or qualitative form. These consolidated variables or data sets are then typically used in further analyses:
   - Qualitative and quantitative data are jointly reviewed and consolidated into numerical codes or narrative for purposes of further analysis.

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