Chapter 14 - Sales Variance Formulas

Sales-Volume Variance  
= (Actual Quantity - Budgeted Quantity) \times \text{Budgeted CM}_{u}

Sales-Quantity Variance  
= [\text{Actual Quantity (all)} - \text{Budgeted Quantity (all)}] \times \text{Budgeted Sales Mix \%} \times \text{Budgeted CM}_{u}

Sales-Mix Variance  
= (\text{Actual Sales Mix \%} - \text{Budgeted Sales Mix \%}) \times \text{Actual Quantity (all)} \times \text{Budgeted CM}_{u}

Market-Size Variance  
= (\text{Actual Market Size} - \text{Budgeted Market Size}) \times \text{Budgeted Market Share} \times \text{BACM}_{u}

Market-Share Variance  
= (\text{Actual Market Share} - \text{Budgeted Market Share}) \times \text{Actual Market Size} \times \text{BACM}_{u}

Alternative calculations:

\begin{align*}
\text{Flexible Budget:} & \\
\text{Actual Quantity Sold (all)} & \times \text{Actual Sales Mix} \\
& \times \text{Budgeted CM}_{u}
\end{align*}

\begin{align*}
\text{Actual Quantity Sold (all)} & \times \text{Budgeted Sales Mix} \\
& \times \text{Budgeted CM}_{u}
\end{align*}

\begin{align*}
\text{Static Budget:} & \\
\text{Budgeted Quantity Sold (all)} & \times \text{Budgeted Sales Mix} \\
& \times \text{Budgeted CM}_{u}
\end{align*}

\begin{align*}
\text{Sales-Mix Variance} & \\
\text{Sales-Quantity Variance}
\end{align*}

\begin{align*}
\text{Sales-Volume Variance}
\end{align*}

\begin{align*}
\text{Actual Market Size} & \times \text{Actual Market Share} \\
& \times \text{Budgeted Average CM}_{u}
\end{align*}

\begin{align*}
\text{Actual Market Size} & \times \text{Budgeted Market Share} \\
& \times \text{Budgeted Average CM}_{u}
\end{align*}

\begin{align*}
\text{Static Budget:} & \\
\text{Budgeted Market Size} & \times \text{Budgeted Market Share} \\
& \times \text{Budgeted Average CM}_{u}
\end{align*}

\begin{align*}
\text{Market-Share Variance} & \\
\text{Market-Size Variance}
\end{align*}

\begin{align*}
\text{Sales-Quantity Variance}
\end{align*}

*** Per request: 
Formula for calculating Sales-Quantity Variance using market size and market share

Sales-Quantity Variance  
= \frac{[(\text{Actual Market Size} \times \text{Actual Market Share}) - (\text{Budgeted Market Size} \times \text{Budgeted Market Share})]}{\text{BACM}_{u}}