## Supplementary [Workbook](Workbook.docx) Data

External links are used when linking the [workbook](workbook.docx) to other workbooks or external data. The most frequent feature for linking a [workbook](workbook.docx) to other workbooks is through the use of formulas. In this case the [formula](formula.docx) [references](references.docx) a range or defined name in another workbook. Hyperlinks on cells and other spreadsheet objects are also considered an external link. OLE links are yet another technology used to link the [workbook](workbook.docx) to another object. Finally, Dynamic Data Exchange, or DDE, servers can be used to access external data. DDE servers are accessed through formulas in the workbook.

External links are saved with the target source in a relationship file so that external resources are easily discoverable in lightweight relationship XML rather than deep in the application's XML.

For a [workbook](workbook.docx) consumer.xlsx that makes use of data in another [workbook](workbook.docx) called data.xlsx, the following XML would exist in consumer.xlsx to describe the external link:

[Example:

<Relationships xmlns="…">  
 <Relationship Id="rId1" Type="…/externalLinkPath" Target="data.xlsx"   
 TargetMode="External"/>  
</Relationships>

end example]

And the following XML would exist to describe cached data retrieved from the external workbook:

[Example:

<[externalLink](externalLink.docx) xmlns="…">  
 <[externalBook](externalBook.docx) xmlns:r="…" r:id="rId1">  
 <[sheetNames](sheetNames.docx)>  
 <[sheetName](sheetName.docx) [val](val.docx)="Sheet1"/>  
 <[sheetName](sheetName.docx) [val](val.docx)="Sheet2"/>  
 <[sheetName](sheetName.docx) [val](val.docx)="Sheet3"/>  
 </[sheetNames](sheetNames.docx)>

<[sheetDataSet](sheetDataSet.docx)>  
 <[sheetData](sheetData.docx) [sheetId](sheetId.docx)="0"/>  
 <[sheetData](sheetData.docx) [sheetId](sheetId.docx)="1"/>  
 <[sheetData](sheetData.docx) [sheetId](sheetId.docx)="2">  
 <[row](row.docx) [r](r.docx)="11">  
 <[cell](cell.docx) [r](r.docx)="B11">  
 <[v](v.docx)>47</[v](v.docx)>  
 </[cell](cell.docx)>  
 </[row](row.docx)>

<[row](row.docx) [r](r.docx)="12">  
 <[cell](cell.docx) [r](r.docx)="B12">  
 <[v](v.docx)>19</[v](v.docx)>  
 </[cell](cell.docx)>  
 </[row](row.docx)>

<[row](row.docx) [r](r.docx)="13">  
 <[cell](cell.docx) [r](r.docx)="B13">  
 <[v](v.docx)>38</[v](v.docx)>  
 </[cell](cell.docx)>  
 </[row](row.docx)>  
 </[sheetData](sheetData.docx)>  
 </[sheetDataSet](sheetDataSet.docx)>  
 </[externalBook](externalBook.docx)>  
</[externalLink](externalLink.docx)>

end example]

The Supplementary [Workbook](Workbook.docx) Data section of SpreadsheetML is complimentary to the External Data Connnections (§) section in maintaining all the information about external information that impacts the workbook.