

**Excel Email Automation Tool: Streamlining Email Creation and Scheduling**

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## **Abstract**

In the evolving landscape of digital communication, efficiency in email management has become paramount for businesses and organizations. This paper introduces the Excel Email Automation Tool, a solution designed to automate the drafting and scheduling of emails using Microsoft Excel as a front-end interface, seamlessly integrated with Microsoft Outlook.

In the intricate landscape of pharmaceutical research and development, accurate and timely communication is paramount. This industry, laden with vast datasets, regulatory requirements, and critical timelines, also grapples with duplicated communication among technical leads, trial managers, and vendor teams. The Excel Email Automation Tool emerges as an essential solution to these multifaceted challenges. By bridging the gap between complex data management in Microsoft Excel and effective communication via Microsoft Outlook, this tool introduces a streamlined approach to correspondence. It automates the drafting and scheduling of emails, ensuring that pivotal information is conveyed accurately, consistently, and promptly. By reducing manual interventions and the potential for communication overlaps, the tool upholds the integrity and credibility of communications.

## **Introduction**

In today's fast-paced and digitally connected world, the essence of effective communication has never been more critical, particularly in sectors where precision and timeliness are not just virtues but necessities. The pharmaceutical research and development sector exemplifies such a domain, where the stakes are invariably high, and the margin for error is slender. Here, communication is not merely about staying connected; it is a pivotal component of operational integrity, safety, regulatory compliance, and the successful delivery of life-saving drugs to the market.

The unique challenges of this sector, characterized by its intricate processes, extensive collaborations across different time zones, and stringent regulatory environments, demand an evolved approach to communication. Traditional email management practices, while foundational, fall short in addressing the nuanced needs of pharmaceutical research and development. The dependency on manual processes for drafting, reviewing, and scheduling significant volumes of email correspondence is both a time sink and a potential source of errors. Moreover, the complexity of projects often leads to duplicated communication efforts among key stakeholders such as technical

leads, trial managers, and vendor teams. This not only dilutes the efficiency of communication but also raises concerns over the consistency and reliability of information being exchanged.

Recognizing these challenges and driven by the quest for operational excellence and innovation, we developed the Excel Email Automation Tool. This tool is not a mere convenience; it is a strategic response to the nuanced demands of pharmaceutical communications. By leveraging the ubiquity and familiarity of Microsoft Excel as a front-end interface and harnessing the robust capabilities of Microsoft Outlook for email management, the tool presents a powerful constructive collaboration. It is designed to automate the drafting and scheduling of emails, a function that, while mundane, is foundational to the seamless operation of pharmaceutical research and development projects.

This introduction sets the stage for a detailed exploration of the Excel Email Automation Tool. By dissecting its features, methodology, benefits, and broader implications for the pharmaceutical sector, we aim to underscore its value not just as a technological innovation but as a catalyst for enhancing the efficiency, accuracy, and reliability of communication in a field where every detail matters.

## Tool Overview

The Excel Email Automation Tool is an innovative solution that leverages the familiarity and flexibility of Microsoft Excel. By integrating Excel with the powerful email capabilities of Microsoft Outlook, this tool offers users an intuitive platform to draft, customize, schedule, and send emails.

## Features

- **Automated Email Drafting:** Utilizing custom templates within Excel, users can create emails with dynamic content, pulling information directly from spreadsheet data. This feature is particularly advantageous for sending personalized communications to large groups, ensuring that each message is tailored to its recipient.
- **Date-based Email Scheduling:** The tool allows for precise scheduling, enabling users to specify the exact date and time each email should be sent. This function is critical in managing timelines in pharmaceutical projects, where specific communication milestones must align with project phases or regulatory deadlines.
- **Seamless Microsoft Outlook Integration:** Upon the specified send date, the tool automatically drafts the emails in Outlook, ready for review or immediate sending. This integration ensures that users can maintain their focus on Excel while benefiting from Outlook's email delivery reliability.
- **Customizable Content:** Placeholders enable dynamic content insertion, ensuring personalized emails for each recipient.

The Excel Email Automation Tool is more than just a technical solution; it is a strategic enabler for pharmaceutical professionals. It simplifies the complex web of project communications, reduces the potential for human error, and frees up valuable time that can be better spent on core research activities. By embedding this tool within the everyday software ecosystem of Excel and Outlook, it provides a straightforward yet powerful way to enhance communication efficacy in one of the most fast-paced and regulation-driven sectors.

## Methodology

- **Data Entry:** Users input email details, including recipient information, email body, subject, and any placeholders for dynamic content.

Email template	To	Cc	Bcc	Email Subject	Placeholder1	Placeholder2	Placeholder3	Placeholder4	Placeholder5	Attachment
<p>Hi Placeholder1,</p> <p>I hope you are doing well!</p> <p>As Placeholder2 is coming, could you please work on the Placeholder3 by Placeholder4?</p> <p>After completing the task above, we can move forward to Placeholder5.</p> <p>Please see more details from the attachment.</p> <p>Please let me know if you have any questions or concerns.</p> <p>Thank you.</p> <p>Best regards, xxx</p>	xxx.xxx1@xxx.com	xxx.xxx2@xxx.com	xxx.xxx3@xxx.com	Assignment	Katherine	xxxx-xxxx-studyxxx	ADaM&TLFs	1-Dec	adhoc request1	\\path\attachment\attachment.docx

- **Automation Flow:** To automate the drafting and scheduling of emails, the tool employs Visual Basic for Applications (VBA) code within Excel. The following code snippet illustrates the core functionality of the tool:

### Part 1: Initializing and Setting References

```
Sub CreateAndDisplayEmailDrafts()

    Dim OutApp As Object
    Dim OutMail As Object
    Dim LastRow As Long
    Dim ws As Worksheet
    Dim EmailBody As String
    Dim i As Integer
    Dim SendDate As Date

    ' Set reference to the sheet
    Set ws = ThisWorkbook.Sheets("Customized_content")
```

**Explanation:** This section initializes necessary variables and sets a reference to the Excel worksheet named "Customized\_content." This worksheet contains the email data, including recipients, body content, and scheduling information.

## Part 2: Determining the Last Row and Creating a New Outlook Instance

```
' Find the last row with data
LastRow = ws.Cells(ws.Rows.Count, "A").End(xlUp).Row

' Create a new Outlook instance
Set OutApp = CreateObject("Outlook.Application")
```

**Explanation:** Here, the code identifies the last row of the worksheet that contains data, ensuring the loop processes all relevant entries. It then creates a new instance of the Outlook application, enabling the script to interact with Outlook for email drafting.

## Part 3: Looping Through Rows and Checking Conditions

```
' Get current date
Dim CurrentDate As Date
CurrentDate = Date

' Loop through each row to create drafts
For i = 2 To LastRow
    ' Only create a draft if "Send status" column is not checked and "Send Date" matches today's date
    'If ws.Cells(i, 14).Value = CurrentDate And IsEmpty(ws.Cells(i, 16)) Then ' Assuming "Send Date" is in column 14
    ' Only create a draft if "Send Date" is today and "Send status" is not "Sent Successfully"
    If ws.Cells(i, 14).Value = CurrentDate And ws.Cells(i, 16).Value <> "Sent Successfully" Then |
```

**Explanation:** The loop starts by checking each row for two conditions: if the "Send Date" matches the current date and the "Send Status" is not marked as "Sent Successfully." This ensures emails are drafted only when they are scheduled to be sent and haven't been processed yet.

## Part 4: Drafting the Email

```
Set OutMail = OutApp.CreateItem(0)

' Replace placeholders with actual content
EmailBody = ws.Cells(i, 2).Value
EmailBody = Replace(EmailBody, "Placeholder1", ws.Cells(i, 7).Value)
EmailBody = Replace(EmailBody, "Placeholder2", ws.Cells(i, 8).Value)
EmailBody = Replace(EmailBody, "Placeholder3", ws.Cells(i, 9).Value)
EmailBody = Replace(EmailBody, "Placeholder4", ws.Cells(i, 10).Value)
EmailBody = Replace(EmailBody, "Placeholder5", ws.Cells(i, 11).Value)

' Set email attributes
With OutMail
    .To = ws.Cells(i, 3).Value
    .CC = ws.Cells(i, 4).Value
    .BCC = ws.Cells(i, 5).Value
    .Subject = ws.Cells(i, 6).Value
    .Body = EmailBody
    .Attachments.Add ws.Cells(i, 12).Value
    .Display ' This will display the draft
End With
```

**Explanation:** In this section, the script dynamically generates an email draft in Outlook. It fills the email's fields (To, CC, BCC, Subject, and Body) with data from the Excel sheet. The email body is customized by replacing placeholders with actual content from specified cells.

## Part 5: Updating the Worksheet and Cleanup

```
' Update Send Status column to "Draft created"
ws.Cells(i, 16).Value = "Draft created"

' Clean up
Set OutMail = Nothing
End If
Next i

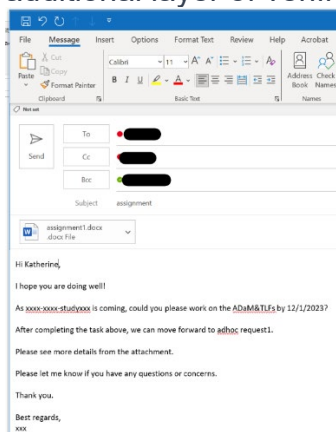
Set OutApp = Nothing

End Sub
```

Email Body (Preview Final version)	Send Date	Send Status
<p>Hi Katherine,</p> <p>I hope you are doing well!</p> <p>As xxxx-xxxx-studyxxx is coming, could you please work on the ADaM&amp;TLFs by 12/1/2023?</p> <p>After completing the task above, we can move forward to <u>ad hoc request1</u>.</p> <p>Please see more details from the attachment.</p> <p>Please let me know if you have any questions or concerns.</p> <p>Thank you.</p> <p>Best regards,</p> <p>xxx</p>	1-Feb	Draft created

**Explanation:** After creating each email draft, the worksheet is updated to reflect that the draft has been created for that row by setting the "Send Status" to "Draft created." The script then cleans up the objects to ensure no resources are left hanging, preventing memory leaks.

- **Sending Process:** Upon saving the Excel file, the tool is triggered. It checks the "Send Date" column to determine which emails to draft and display in Outlook, allowing for final review. Users can then manually send the emails, ensuring an additional layer of verification.



## Benefits & Implications

### Benefits:

- **Efficiency:** Significant time savings compared to manual email drafting.
- **Reduced Errors:** Automated content insertion minimizes the chance of manual entry errors.
- **Flexibility:** Allows for bulk email sending with personalized content for each recipient.

**Implications:** While the tool offers numerous advantages, it's essential to ensure Excel and Outlook are correctly configured for macro usage. Users should be trained on the tool to maximize its benefits and minimize potential misuses.

## Usage Guidelines

- **Data Backup:** Always backup Excel data to prevent any potential data loss.
- **Macro Configuration:** Ensure both Excel and Outlook are set up to allow macro-operations.
- **Regular Review:** Before sending emails, always review the drafts in Outlook to ensure accuracy.

## Conclusion

The Excel Email Automation Tool stands as a testament to the potential of integrating established software platforms to address contemporary challenges. By streamlining email communication, this tool offers businesses and organizations a powerful means to enhance their communication efficiency, ensuring timely and personalized interactions.

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## Contact Information

Your comments and questions are valued and encouraged. Contact the author at:

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