Invoicing Plan Enhancement in Purchase Order

Applies to:
SAP ECC 6.0. For more information, visit the Enterprise Resource Planning homepage

Summary
This document helps the P2P consultants to understand the way in which enhancement can be done on the Invoicing Plan, available in Purchase Order. It is ideally suited for those Consultants who are new to this subject. How the enhancement can be achieved & some customizations can be done for meeting the business requirement in Purchase Order’s Invoicing Plan functionality has been explained in a simple and understandable way. Any suggestions and improvements towards this document will always be welcomed.

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Author Bio
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Invoicing Plan

What is Invoicing Plan? Before we start with the main topic of Invoicing Plan Enhancement in Purchase Order, let us revisit the basics of Invoicing Plan.

Have you ever felt the need to have invoices generated automatically and paid without having to wait for the receipt of the supply or completion of a service from your vendor? Since some transactions (such as leasing or renting) are repetitive in nature and in such cases, we are normally not concerned about their delivery or completion, is it possible for us to schedule invoice generation and payment, instead of handling the invoices manually? Does the procurement of certain equipments / high valued goods or services allow you to make installment payments? If the answer to all these questions is a “YES”, then SAP’s Invoicing Plan functionality is the solution.

Invoicing Plan in Purchase Order

An invoicing plan consists of a series of invoicing dates and values and forms the basis for the mainly automatic creation and settlement of invoices.

The invoicing plan is a facility that allows you to schedule desired invoicing dates for planned procurements independently of the receipt of the relevant goods or services. It lists the dates on which you wish to create and then pay the invoices in question.

You do not wait each time for the vendor to submit an invoice for goods supplied or services performed, but can have invoices created automatically by the system on the basis of the data available in the purchase order and then release them for payment to the vendor.

PO items with an invoicing plan are suitable for recurrent procurement transactions (such as rental, leasing, servicing agreements) or for transactions involving settlement in stages.

The following two types of invoicing plan are available:

- Periodic invoicing plan
- Partial invoicing plan
Periodic Invoicing Plan:

The periodic invoicing plan can be used for regularly recurring procurement transactions (e.g. rental, leasing, or subscriptions).

It facilitates the largely automatic creation and payment of invoices within the framework of the invoice verification process. The periodic invoicing plan uses evaluated receipt settlement (ERS) program functionality.

In the case of the periodic invoicing plan, the total value of the PO item is invoiced on each due date.

An Example:

A monthly sum of $1000 is charged for a leased car (represented by an item of a PO). This sum is invoiced and paid on the last day but one of each month.

In Customizing for Purchasing, you can define whether the dates are to be maintained manually or whether the system is to suggest invoicing dates according to the specified rules.

A snapshot of Periodic Invoicing Plan in PO line item in SAP
Partial Invoicing Plan:

The partial invoicing plan can be used for the invoicing of high-cost material or projects involving the procurement of external services that are to be subject to stage payments (such as plant construction projects, or the invoicing of individual stages of a building project following completion in each case).

You can also flag due dates in a partial invoicing plan as dates for advance payments. The amounts corresponding to these dates are then not taken into account in the sum total of the invoice items because advance payments are set off against later invoices.

With this type of invoicing plan, the total value of the PO item is spread among the individual due dates defined in the invoicing plan. Thus, only a part of the total item value is payable on each due date. The total value of the PO item can be split among the due dates on a percentage basis or in absolute amounts.

An Example:

A purchase order item relates to building project no. 1 with a total value of $900,000. 33.3% ($300,000) of the total value is due to be invoiced and paid on completion of the first phase of construction, a further 33.3% ($300,000) on completion of the second phase, and the rest ($300,000) following completion and acceptance of the 3rd and final phase.

In the partial invoicing plan, you wish to maintain the invoicing dates agreed with the vendor yourself. Therefore there is no system support in the form of date proposals. However, if you wish to have due dates suggested by the system as an entry aid, you can reference an existing plan when creating a new invoicing plan, date proposals can then be adopted from the former.

A snapshot of Partial Invoicing Plan in PO line item of SAP (Stage wise payment)
Business Requirement Pertaining to Invoicing Plan

In case of one of our Client, who was into Engineering & Construction business, wanted to use the Invoicing Plan functionality for their Procurement processes, but the main requirement by the Business side was to have a provision in the Purchase Order, through which it will be possible to copy the Invoicing Plan maintained in any one of the PO line item to either all the PO line items or to any one specified line item selectively.

Business Scenario & its Significance

A typical scenario will be for the POs created by the Business’s Procurement cell for huge, high valued equipments, where the payment details runs into multiple schedules / stages, for which Partial Invoicing Plan can be used effectively by them, to get a better control on the payments, as well as the Funds forecasting for the PO.

But the major challenge using the Invoicing Plan in Client’s Business scenario comes as normally their POs have multiple line items sometimes ranging up to several 100s. So maintaining the invoicing plan individually at each PO line item with all the relevant details is difficult & time consuming activity. Even if they use the Reference Invoicing Plan option, still they will be required to go and manually put the reference invoicing plan number in each of the PO line items Invoicing Plan, specifically for cases, where they follow the same payment schedule for majority of the PO line items. So in such cases, if such an option is available, then a lot of time and efforts can be saved.

Approach

Meeting this requirement seems quite difficult at first look, as our standard SAP system does not have the Invoicing Plan available at the PO Header level in addition to PO Item level, from where if the Invoicing Plan is maintained at the Header level, then for such POs it can be either applicable to all PO line items or can serve as an entry aid for PO Item level Invoicing Plans. Hence an Enhancement is required in PO, whereby we can should explore the possibility to use two custom buttons, one at PO line item level for copying the Invoicing Plan from the current PO line item to any other desired PO line item, and other button at the PO header level for copying the Invoicing Plan from the current PO line item to all the PO line items. This requirement will be possible if we get a Screen exit to create some custom sub-screens & add these buttons in that sub-screen to meet our Business requirement, the logic for which can be coded in the Screen Exit.
Screen Exit for PO Release

For meeting this requirement, we found a Screen Exit in the below enhancement from T-Code SMOD

Enhancement: MM06E005 - Customer fields in purchasing document

Screen Exit: SAPLXM06

Using this screen exit, we can insert our custom sub-screens in the PO header & PO Item details as per the business requirement. Further new fields will be required to be added in this sub-screen for capturing the Source PO line item, Destination PO line item, Copy Function button, etc. We will also need to bring a logical flow of these custom fields & buttons along with the main PO program, which can be done by coding the logic accordingly in the various includes available with this screen exit. The includes available along with this screen exit are: ZXM06I02, ZXM06I01, ZXM06O01, ZXM06O02, ZXM06I03, ZXM06I04, ZXM06I05, ZXM06I06, ZXM06O04, ZXM06I08, ZXM06O05, ZXM06O06 & ZXM06O07, which can be used for the required enhancement

**Tips for finding the Screen exit for the above enhancement:**

First we need to search the Package for the Transactions where we need to put the enhancement

In this case the T-Codes are ME21N, ME22N & ME23N

Using these T-Codes go to the Transaction SE93 (Maintain Transaction) & When you put the transaction name there are click on Display option, you get the Package details from the field Package, which in this case was “ME”

![Display Report Transaction](image)

**Snapshot of SE93 T-Code**

Alternatively you can run find the Package details from the Transaction ME21N by going in the Status option in System menu & double click on Program name & then select the Attributes Option from the Goto Menu.

Refer the below snapshots for details:

![Snapshot for fetching Package details from ME21N transaction](image)
Snapshot for fetching Package details from ME21N transaction

Once the Package is determined, the Screen Exit can be found from the T-Code – SMOD by clicking the Search help & giving Package details in the Search for Customer Exit.
Snapshots for finding the Screen Exit from T-Code SMOD

After finding the relevant Exits, you can check their details in display mode by viewing their components & checking the structures available in the includes available for the Screen areas of the exit (T-Code for checking includes = SE38)

Snapshots from SMOD T-Code
Snapshots from SE38 T-Code

Thus we found a Screen Exit, which can be explored for inserting our custom sub-screen & buttons in the PO sub-screen for doing the desired Enhancement for Invoicing Plan.

For feasibility check this can be further checked along with a Technical expert of ABAP, who can put the desired coding needed as per the Business requirement in the ABAP programming language in the Z-Include. From Functional point of view we need to ensure that all the requisite details, logic and table / field details go clearly along with the desired customer exits in the Functional Specification to the ABAP Technical consultant.

A Word of Caution

In some cases, by activation of certain exits, some functionality may be impaired by giving some undesirable behavior, which may be observed in the transactions, for which the exits are activated. Hence thorough testing needs to be done to take care that in case of any issues, the necessary corrective actions or corrections in the form of SAP notes can be implemented to remove all the undesired effects in the affected transactions. To search for SAP Notes, Please follow the link service.sap.com
Screen Exit Implementation

Now after we find the desired Screen Exit for implementing our enhancement required for PO Invoicing Plan easy maintenance, we need to give the complete functional logic and the desired functionality, as per which the ABAP Technical consultant can complete the coding for the desired results. Also technical details in the form of the tables where the data is stored & the important field names within the tables need to be specified in our Functional Specifications.

In our case of Invoicing Plan, the data entered in the Invoicing Plan gets stored in the below two main tables

- **FPLA**: (Billing Plan)
  - It contains information and rules that belong to the whole invoicing plan, like:
    - Invoicing plan type, Start date, End date (only for periodic invoicing plans), Dates from (only for periodic invoicing plans), Dates until (only for periodic invoicing plans), Rule for determining the next billing/invoice date (only for periodic invoicing plans), In advance (only for periodic invoicing plans), Calendar ID (only for periodic invoicing plans), Horizon (only for periodic invoicing plans), Reference (only for partial invoicing plans), etc.

- **FPLT**: (Billing Plan: Dates)
  - It contains the information of the invoicing dates, like:
    - Invoicing value, Invoicing date, Billing block, Billing status, etc.

At the same time, It is also critically vital to give the relation of all the tables along with the Parent PO tables (**EKKO** = PO Header Table, **EKPO** = PO Item table)

Each invoicing plan has a number. In table EKPO this invoicing plan number is stored in field EKPO-FPLNR. Via this field (FPLNR), the Invoicing Plan and PO item (EKPO-EBELP) are tied together.

Finally the desired coding can be done accordingly to insert the custom sub-screens & the desired fields, & buttons needed to achieve the Business requirement in above case.

Now, for addition of sub-screens in standard transactions, usually SAP provides:
- An append structure in the database tables with the new fields
- A sub-screen area into the standard screen, where the programmer can insert a sub-screen of his own program with the new fields
- A function group under which the new sub-screen has to be created with the new fields
- Function exits to synchronize the flow of data, so that data can flow back and forth between the standard SAP program and the program written by the developer for the sub-screen

All these activities require a Technical expert from ABAP to work on the coding part. From functional side, we need to mention the logic along with the Screen exits available for meeting our requirement and other details as explained above.
Screen Exit Effect on the Invoicing Plan Maintenance

Now for seeing the effect of our enhancement on the Invoicing Plan maintenance for POs, we will just have a look on the PO's snapshots for Partial Invoicing Plan maintenance after exit implementation was completed for our Client.

After the changes were completed, a new & Enhanced Copy Invoicing Plan functionality was Introduced (One at the PO Header level (Payment Plan Tab, a custom tab developed for our client) for copying Invoicing Plan to all PO line items & second at PO line item level (Customer Data tab, a custom tab developed for our client) for copy to a selected line item. Please refer the snapshots below which shows these buttons added in the above two mentioned custom tabs.

Snapshot of PO Header Custom tab with button for allowing the copy functionality in Invoicing Plan.

The reference Line item from which the Invoicing Plan is to be copied to all PO line items need to be specified in the field “From Line Item”

Snapshot of PO Item Custom tab with buttons for allowing the copy functionality in Invoicing Plan.

The reference Line item from which the Invoicing Plan is to be copied to all the desired PO line item need to be specified in the field “From Line Item” & the destination line item be specified in the field “To Line Item”

Now, after maintaining Invoicing Plan as per the Vendor agreed milestones in the PO first line item, we can use the above functionality to copy the Invoicing Plan from the line item to other line items as per our requirement.

Refer the below snapshots of creating the Invoicing Plan & then copying it further:

In the PO line item, enter the details of Invoicing Plan by clicking on the button of Invoicing Plan in the Invoice Tab
Specify the Invoicing Plan type

Enter the Milestone details, as agreed with your Vendor in the Invoicing plan sub-screen

Now after we have maintained Invoicing Plan in Line item # 1, as above, we can then copy it using one of the below available options:
Option # 1

Copy Invoicing Plan from Line item # 1 to Line item # 2. The desired line items can be selected from the search help provided in the custom tab for ease of input to user.

Select line items using the search help provided

After entering the source & destination line item click on copy button to copy the invoicing plan

Invoice Plan copied successfully

The invoicing plan is copied & a success message is displayed for the same
Option # 2

Copy Invoicing Plan from Line item # 1 to all PO line items. The desired source line item from which the Invoicing Plan needs to be copied to all PO line items needs to be selected from the search help provided in the custom tab for ease of input to user.

Select the source line item in the header copy option using the search help provided

After entering the source PO line item click on copy button to copy the invoicing plan to all PO lines

The invoicing plan is copied & a success message is displayed for the same

This is the way in which we successfully met our Client’s Business requirement by enhancing the PO Invoicing Plan maintenance by providing custom copy options through the use of Screen Exit. These Copy options satisfied Business users requirement completely & they started using Invoicing plan feature provided by SAP effectively in their Purchase Orders.
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