

Instruction Manual for Using The RosettaNet Cost Efficiency Model

This instruction manual is intended for use with the Excel RosettaNet Cost Efficiency Model. In this manual, detailed explanations are given regarding the model structure as well as various model components such as terminology, business processes, input and decision variables, numerical formulas, etc. The purpose of this manual is to give the user of the model a comprehensive understanding of the model structure and guide the user through the information inputs. This model will permit the user to calculate the potential cost savings from RosettaNet implementation.

An overview of the Cost Efficiency Model

The Cost Efficiency Model is designed to capture the tangible benefits that can be achieved through RosettaNet (RN) implementation. The model is intended for use by RosettaNet users from the sell side (supplier) of commercial transactions. The term “tangible benefits” refers to cost savings that arise from reduced consumption of identifiable cost drivers, such as direct labor and material, and can be quantified through numerical calculations.

The model contains seven worksheets. Five of the worksheets are dedicated to different RosettaNet business processes: purchase order (PIP 3A4/8), advance shipment notification (PIP 3B2), inventory management for consignment (PIP 4C1), payment remittance (PIP 3C6) and delivery schedule management (PIP 4A2/3/5). The Cost Efficiency Model also includes a separate worksheet named “process” which is intended to capture inventory savings and early payment discounts. A summary sheet combines all the cost savings from each worksheet and shows the total annual savings that can be achieved by implementing RosettaNet.

Major benefit categories

We anticipate that the majority of tangible benefits will show up in 5 major categories:

- **Throughput time reduction:** The implementation of RosettaNet will automate many of the current business processes and eliminate a lot of manual transactions. The throughput time reduction addresses labor cost savings through headcount reduction or re-allocation of staff.
- **Paper and office supply consumption:** The automated processes under RosettaNet will eliminate a lot of paper-based transactions such as photocopies and faxes, therefore reducing the actual paper and office supply consumption. Your company will also reduce its usage of certain office equipments such as copy machines, fax machines, etc, thereby reducing your capital equipment expenditures.

- Data exchange cost: When RosettaNet integrates with the backend system it enables automatic data transfer between systems of different trading partners. This automated process greatly reduces the use of traditional data exchange methods such as faxes, emails, value-added networks (VANs), data downloads and uploads through web applications. Therefore the costs associated with using these methods will be eliminated as well.
- Inventory reduction: The implementation of RosettaNet greatly improves the operational efficiency and data integrity of a company. RN enables data exchange to occur with much greater frequency and accuracy, therefore greatly facilitating collaboration among supply chain partners. RN improves the inventory visibility across the supply chain and reduces the need for safety stock to buffer against forecast variability. RosettaNet also helps reduce the forecasting window and expedites the fulfillment process, therefore shortening product lead-time. All these factors enable a leaner, more responsive supply chain and help your company achieve substantial inventory reduction.
- Early payment discounts: Implementation of the RosettaNet PIP for automated invoice and payment remittance process allows your company to expedite the payment process, thereby improving its chances to take advantage of early payment discounts if desired.

Components of the model (using PO worksheet as an example)

Graph 1

	Manual	EDI	Web	Total
Current Processes (%)	50%	30%	20%	100%
Efficiency Gains Indicator	1.00	0.50	0.70	
Efficiency Index	0.79			
# of standard PO transaction per month	460			
% of PO changes	10%			

	Time Consumption (min.)	Monthly Time Consumption (min.)	Efficiency Gains (%)
Receive PO from customer	2	920	100%
Input customer order into the system	1	460	100%
Input manufacturing instructions	2	920	100%
Copy and file PO as paper	1	460	0%
Receive PO change	1	460	100%
Verify PO changes	2	920	0%
Input PO changes into the system	2	920	100%
Modify manufacturing instruction	2	920	100%
Copy and file PO change	1	460	0%
Baseline efficiency gains (min./month)	4,600		
Baseline efficiency gains (hour/month)	77		
Annual Throughput Time Reduction (hr)	727		

Enter data here – how much of your current PO volume do you receive by manual, EDI, or web transactions?

Generic order entry process that you can modify based on your internal business processes

Answer Box – with double border, to be calculated by the model

Worksheet tabs for each individual PIP process

Red box

The red boxes are information that needs to be filled out by the user. These are decision variables that are unique to your company. They vary across different companies and a uniform rate cannot be estimated with reasonable accuracy. There are three major types of decision variables in this model.

Current process composition

This data shows the percentage of transactions conducted through manual, EDI or web processes. In our example above, the company currently conducts 50% of its transactions through manual processes, 30% through EDI and the rest 20% through web-based applications.

Definition of web-based applications – use this **only** if your customer logs onto your website and enters data directly into your system. This category is used when you benefit from the efficiencies gained through website transactions. Do not use it if you get POs by email and you have to manually enter the data into your system.

Definition of EDI applications – use this **only** if the EDI data transmitted to your company is uploaded directly into your MRP system. This category is used when you benefit from the efficiencies gained through EDI transactions. Do not use it if you get POs by EDI, print them, and you manually enter the data into your system.

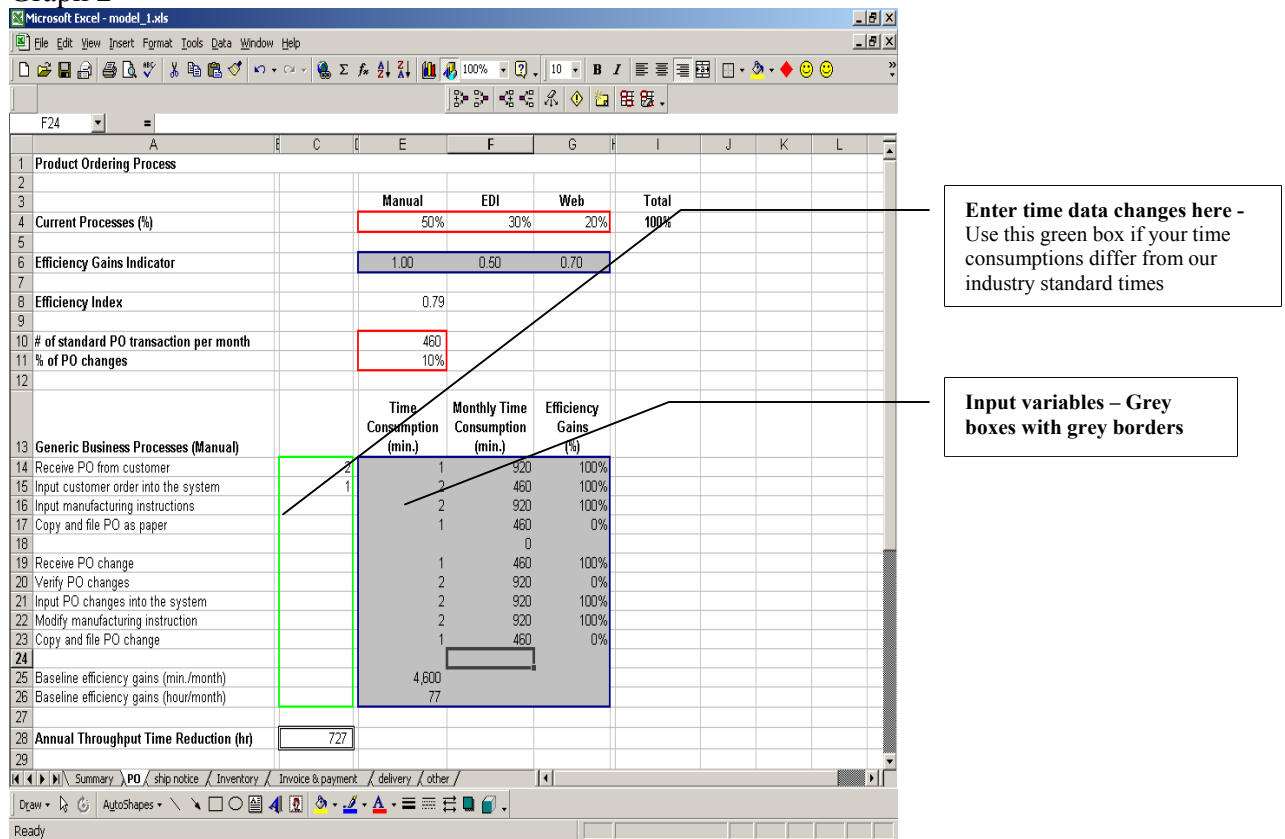
Cost drivers

In our example, the cost drivers are number of POs, percentage of PO changes per month, paper consumption, etc. These cost drivers drive the business processes and are major indicators of business volume. They should only be available internally to a company.

Cost information

An example would be cost per sheet of paper or data exchange cost per transaction. These information are left to be filled by the user because we feel they should vary across different geographical regions, different companies with different operating scales, etc.

Graph 2



Grey Box (refer to graph 2)

The grey boxes with blue borders are input variables that contain fixed information given by the model. This data should remain fixed unless changed together with the business processes. If your process has steps that differ from those included in the Generic

Business Process (Manual), you can add steps and process times to the model (see section **Enter Data** which follows). The process steps, and times included in this model are estimated according to industry standards. There are three types of input variables in the model:

Efficiency gain indicator

The model assumes a completely manual process as the efficiency base line. The indicators show the level of efficiency gains for each process on top of the manual base line when RosettaNet is implemented. For example, if a company currently uses a completely manual process, the efficiency gain from RN implementation should be 1.0, which means 100%; while if the company is currently using EDI, the efficiency gain is estimated to be 0.1, which means implementing RosettaNet will only give the company a 10% savings and the remaining 90% efficiency gain should have been captured when the company implemented EDI.

Time consumption data for each business process

This data is tied with the standard industry transaction processes outlined in the leftmost column and is used to show the amount of time consumed for each step of the business processes. It's based on 100% manual processes and is estimated and verified through company interviews and industry research. In our PO example, a standard PO transaction commonly consists of 4 steps and takes about 5 minutes to complete. This information is then multiplied by the cost driver-number of PO per month to get the monthly time consumption data in the next column. The time consumption information is given in the model and should remain fixed unless a user feels that its business processes and time consumption data deviate substantially from the given industry standards. In this case, the user can choose to fill in its own information using the optional variable box with the green border.

Process efficiency gains

The process efficiency gains give the percentage time reduction for each step of the processes when RosettaNet is in place. In our PO example, efficiency gain for the first step of our PO processes-“receive PO from customer” is 100%, meaning when RosettaNet is implemented, this step is completely eliminated; however since most companies would still file PO hardcopies even after RosettaNet is implemented, the efficiency gain for this step is 0%.

Green Box (refer to graph 2)

These green boxes are optional input cells designed to capture the process time consumption difference that user may have. The purpose of these variables is to improve the applicability of the model and to give the users some flexibility when they feel their time consumption data is significantly different from the industry average given in the model. The model is designed to automatically capture this optional information in its

throughput time saving calculations if users choose to fill in their own time consumption data in the green boxes. If they are left as blank, the model will use the information given in the grey boxes.

In this example, the grey box includes standard time estimates for each step of the purchase order transaction. The first on the list is **Receive PO from Customer**; we estimate that it takes 1 minute to complete this step of the order entry process. If it takes your longer or less than 1 minute, enter your own data in the green box next to the grey box.

Answer Box

The Answer Box has a double line border around it. These are output variables that are calculated by the model. In this example, the output variable shown in the answer box is total throughput time savings. Also on the same tab of the worksheet, but not shown in the example are dollar amount cost savings.

Enter Data

*****IMPORTANT*****

Before any data is entered in model, you should first look at the generic processes and process time consumption data listed in the model and decide whether your current processes agree with the generic model processes and whether any time consumption information change needs is needed.

1. If your processes match the model processes and no time consumption data change is needed:

Simply fill out information in the red boxes and the model will do the calculations.

2. If your processes match the model processes, but changes need to be made to the time consumption data:

Fill out information in the red boxes and enter your own time consumption data in the green boxes when necessary.

3. If your processes do not match the model processes:

Ignore the generic processes given in the model and enter your own steps of processes. All information tied with the processes need to be changed accordingly. These include time consumption data and process efficiency gains originally included in the grey boxes. Don't forget to drag down the monthly time consumption box so that the embedded formula will be copied. DO NOT use the green box. Hit the MODIFY PROCESS button to the right to add lines if needed.

In our example, the **Generic Business Processes (Manual)** box shows many of the common steps for order entry. If your process has different or additional

steps, you can modify the current process steps or enter your steps on the blank line in the Generic Business Processes box (in this case, cell A18). Please enter the time consumption data and the process efficiency gains on the adjacent line in the box with the green border. The model will recalculate based on the new processes.

Reference List

All information given in the model is based on the team's industrial research and RosettaNet case studies. Information regarding generic business processes is mostly based on raw data obtained from two Intel suppliers-Shinko and EverTech. Efficiency gain indicators are estimated from the team's industry research.

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