

Detailed Cost Values - Assumptions and Default Values				
Item	Description	Use	Assumptions	Source
1	Period for calculations - Annual	Annual - all inputs and outputs are based on a 12-month period	Annual	Default is 12 months. The calculator is designed with annualized (12 month) calculations and cannot be easily amended to support a shorter period.
2	Ratio of invoices to payments	Used as a default in the model, but may be easily overridden in the User Input tab by keying the actual number of payments and invoices	1 invoice-to-1 page	Assumption - Based IOMA, Aberdeen, IAPP consensus estimate of 5.42 line items per invoice; we estimate 1 page
3	Ratio of ACH Addenda to ACH Items	Used as a default in the model, but may be easily overridden in the User Input tab by keying the actual number of payments and invoices	1 addendum-1 ACH item	Based on ACH Volume Statistics 2009
4	Cost of Labor	Used in labor calculations for both business costs and environmental impacts	Fractional hours * hourly rate	Bureau of Labor Statistics
	Avg. Salary		43460	\$43,460.00 - Bureau of Labor Statistics
	Avg. Hourly		15.91	\$15.91 - Bureau of Labor Statistics
	Avg cost of benefits		0.3	30% - Bureau of Labor Statistics
	Fully loaded Salaried cost		62496.4	\$62,496.40 - Calculated based on Bureau of Labor Statistics data
	Fully loaded hourly cost	Business cost calculations, environmental calculations	22.88	Calculated based on Bureau of Labor Statistics data
5	Transportation	Environmental calculations	---	No explicit value is used. Transportation is included within the USPS environmental values used within this calculator
6	Bank Processing Costs - Basis. Only one cost is used for both current and projected business cost and environmental analyses.	Business Calculator Only - Various incremental costs	Various	Phoenix-Hecht, Inc., Version 2009-2010 - Phoenix-Hecht Blue-Book of Bank Pricing; AFP Fraud Study
7	Median Cost to Process a PO Invoice	Business Cost Analysis	6	IOMA 2011 AP Department Benchmark and Analysis. Page 47, Figure 3-21, Cost to Process a PO Invoice. All industry median is \$6.00 per PO invoice, Average cost is \$10.58 per PO invoice

Pre-Payment Processing				
Item	Description	Use	Defaults	Source
8	Suppliers that enroll through a portal, per enrollment	Business cost calculations, environmental calculations	0	Assumption: Portal - Supplier logs into buyer's supplier portal, navigates to enrollment page, keys 160 characters and obtains confirm number
9	Suppliers that enroll via e-mail, per enrollment	Business cost calculations, environmental calculations	2.29	Assumption: 0.10 hours at \$22.88 per hour. E-mail: Buyer emails forms, Supplier completes 160 characters and emails form back
10	Suppliers that enroll via fax, per enrollment	Business cost calculations, environmental calculations	11.44	Assumption: 0.50 hours at \$22.88 per hour. Fax: Supplier (or Buyer) initiates request - 0.50 hours of labor. Buyer faxes enrollment forms to Supplier. Supplier prints 2 page form, applies wet signature, faxes back to AP department

Fraud Prevention - Confirming the Enrollment				
Item	Description	Use	Defaults	Source
11	Supplier enrollments confirmed by phone, per confirmation	Business cost calculations, environmental calculations	2.29	Assumption: 0.10 hours at \$22.88 per hour. Confirm Enrollment via Phone. Buyer's AP department authenticates enrollment request via telephone call back; assume supplier not reached until second attempt; 0.10 hours
12	Supplier enrollments confirmed via e-mail, per confirmation	Business cost calculations, environmental calculations	1.14	Assumption: 0.05 hours at \$22.88 per hour. Confirm Enrollment via E-mail
13	Number of new supplier Accounts Payable Set-Ups	Business cost calculations, environmental calculations	2.29	Assumption: 0.10 hours at \$22.88 per hours. Set up new suppliers on accounts payable system
	Invoice Processing			
	Invoice Receipt			
14	Invoices that are received electronically (EDI, portal, e-invoicing, e-mail or fax with workflow)	Business cost calculations, environmental calculations	0	Invoices processed per year that are received in electronic format through a buyers online trading partner portal, or generic supplier portal
15	Invoices currently received in paper that are scanned and imaged	Business cost calculations, environmental calculations	0.46	Assumption: Labor 0.02 hours per invoice at \$22.88 per hour
16	Invoices received in paper (not imaged)	Business cost calculations, environmental calculations	5.72	Assumption: 0.25 hours labor per invoice at \$22.88 per hour. Mail sort, mail delivery, mail opening

Invoice Processing and Approval				
Item	Description	Use	Defaults	Source
17	Invoices that are processed straight-through from receipt to payment without approval	Business cost calculations, environmental calculations	0	No intervention is required. Integration and business applications receive info and integrate with systems of record (e.g., AP and its pre-processes)
18	Invoices that are automatically 2-way matched (invoice to PO) and queued online for approval? (others AP forwards to approver for manual approval)	Business cost calculations, environmental calculations	0	Invoices are automatically 2-way matched (invoice to PO) and queued online for approval (other invoices are forwarded to an approver for manual approval)
19	Invoices that are approved manually, then forwarded to Accounts Payable for input and payment?	Business cost calculations, environmental calculations	2.29	Assumption: 0.10 hours of labor per invoice

Payment Processing				
Item	Description	Use	Defaults	Source
20	Checks to suppliers, per check	Used as a default in the model, but may be easily overridden in the Summary Input tab by keying the actual cost	0.27	Compound cost derived from elements below. CHANGE ELEMENTS IN BLUE TO DERIVE NEW COST.
20.1		check stock	0.15	EPAYMENTS.org cost. Also...Deluxe Checks - a. remittance info printed on top (or bottom) stub of AP check. Cost basis - 1000 AP top stub style checks for \$163.95 or \$0.17 per check. Basis is Deluxe Top stub continuous laser checks DCB 207 1-part for AP-Top remittance stub. Size 9-1/2 X 7 continuous 1-part with built-in security features. Assume 20 lb
20.2		bank processing charges per paid check with positive pay	0.12	Phoenix-Hecht Blue Book 2009-2010. Default of \$0.12 per item assumes that check positive pay is used and an additional bank maintenance fee applies. If positive pay is not used, P-H cost studies show a higher cost per paid item of \$0.16 per paid item. IF YOU DO NOT USE POSITIVE PAY, the assumption and default should be \$0.16 per item.
21	Number of hours per year to produce checks, cost per hour, per 100 checks	Used as a default in the model, but may be easily overridden in the Summary Input tab by keying the actual cost	22.88	One hour per 100 checks. Hourly cost of labor based on Bureau of Labor Statistics. Hours are calculated on the Summary Input page
22	ACH Credits to suppliers, per credit	Used as a default in the model, but may be easily overridden in the Summary Input tab by keying the actual cost	0.09	Bank processing costs to buyer for origination. Phoenix-Hecht Blue Book 2009-2010. ACH Credit origination is an electronic process, whereby any number of 94-byte records are electronically transmitted from a financial institution to an ACH operator, which clears the transactions to the receiving institutions. ACH initiation software systems, used by a company to create transaction to be sent to the financial institution, allow for set up of repetitive ACH transactions. Typically up to 76 characters (bytes) of information is entered at initiation (via key entry or through integration with systems of record (e.g., Accounts Payable).
23	ACH Addenda, per addenda record	Used as a default in the model, but may be easily overridden in the Summary Input tab by keying the actual cost	0.02	Bank processing costs to buyer for origination. Phoenix-Hecht Blue Book 2009-2010. Although the average list price is \$0.03 per addenda record, P-H cost studies show an actual cost to market of \$0.022 per addenda record. A 94 byte record following an ACH payment record, which describes the payment. These must conform to NACHA and related standards. Also see ACH Credit
24	ACH Pre-notes, per pre-note	Business cost calculations	2.41	Compound cost derived from elements below. Although pre-notes are optional, this model assumes that all new suppliers (vendors) on-boarded are paid via ACH Credit and are pre-noted. A Pre-note is an ACH transaction (zero or low dollar) that tests the posting to an account of a payee. Typically done at enrollment or when payment account information changes. Dual approvers are required. See also ACH Credit
24.1		Bank processing costs per originated item	0.12	Bank processing costs to buyer for origination. Phoenix-Hecht Blue Book 2009-2010
24.2		Labor	2.29	0.10 hours of labor at \$22.88 per hour per Bureau of Labor Statistics
25	ACH Set-ups, per set-up	Business cost calculations, environmental calculations	2.29	0.10 hours of labor at \$22.88 per hour per Bureau of Labor Statistics. Set up in the ACH origination system including additional risk mgmt, although occasionally there is integration between Accounts Payable and the ACH origination system. Our default is human key entry
26	Cancelled check storage per year, per check	Business cost calculations, environmental calculations	0	Default is to access the bank's 7-year archive
27	Check spoilage, per check (waste from check printing runs) - same price as any check stock	Business cost calculations, environmental calculations	0.15	Checks issued that must be stopped prior to posting. Duplicate issue, stolen, mis-issued. Stop payments are issued through online banking system. Cost basis - Basis is Deluxe Top stub continuous laser checks DCB 207 1-part for AP-Top remittance Stub. 1000 AP top stub style checks for \$163.95 or \$0.17 per check (discounted at \$0.15). Size 9-1/2 X 7 continuous 1-part with built-in security features. Assume 20 lb
28	Remittance advised in top stub of check	Business cost calculations, environmental calculations	0	This cost is already included in the cost of a standard Accounts Payable top stub check
29	Check remittances notified by separate advice included with check	Business cost calculations, environmental calculations	0.15	Remittance is laser printed in black and white, 1-page 8-1/2 x 11 paper, (assumed with 50% recycled content). No additional mailing cost as the second page (first is check) is under the USPS first class non-zip per ounce mailing rate
30	Check remittances notified by portal email, fax, online, or portal	Business cost calculations, environmental calculations	0	It is assumed that with any of these electronic channel distribution methods, there is a download format, or Adobe electronic print (no paper) capability. No paper printing is assumed
31	ACH Credit remittance advices per mailed paper advice	Compound (derived) cost	0.67	Compound cost derived from elements below. CHANGE ELEMENTS IN BLUE TO DERIVE NEW COST.

31.1		Remittance Advice Printing, per advice	0.15	The same paper form to print check and remittance advice. Remittance info printed on top (or bottom) stub of AP check. Cost basis - Deluxe Checks 1000 AP top stub style checks for \$163.95 or \$0.17 /check (\$0.15 with discounts). Basis is 1,000 Deluxe DCB 207 1-part AP-Top remittance stub, 9-1/2 X 7 continuous 1-part with built-in security features. Assume 20 lb
31.2		Envelope	0.08	#10 business envelope 4-1/2 X 9 with standard window, white, gummed machine sealable. Input cost based on Staples brand per 100
31.3		Mailing Cost - Postage, per ACH remittance advice	0.44	Default is regular USPS 1 ounce rate. Note that businesses may received reduced rates. \$0.382/ ounce USPS 1st Class Business 1 oz rate - no zip per-sort.
32	ACH Credit remittance advices via email, fax, online or portal	Business cost calculations, environmental calculations	0	No cost is assumed. It is assumed that with any of these electronic channel distribution methods, there is a download format, or Adobe electronic print (no paper) capability. No paper printing is assumed

**Post-Payment Processing**

Item	Description	Use	Defaults	Source
33	Number of supplier (vendor) inquiries per year	Business cost calculations, environmental calculations	22.88	1 hour of labor at \$22.88 per hour. Number of inquiries made by suppliers regarding invoice or payment processing. The use of electronic payments such as ACH Credits should reduce the number of inquiries as clearing and settlement is predictable
34	Number of changes to payment accounts - ACH	Business cost calculations, environmental calculations	2.29	0.10 hours of labor at \$22.88 per hour
35	Number of replacement checks issued per year (Lost or Stolen)	Business cost calculations, environmental calculations	23.67	Compound cost derived from elements below. CHANGE ELEMENTS IN BLUE TO DERIVE NEW COST.
35.1		Labor	22.88	1.00 hours labor at \$22.88 (\$5.72) per hour
35.2		Check stock, per check	0.15	Deluxe Checks - a. Remittance info printed on top stub of AP check. Cost basis - 1000 AP top stub style checks for \$163.95 or \$0.17 /check. We estimate \$0.15 /check with discounts. Basis is Deluxe Top stub continuous laser checks DCB 207 1-part for AP-Top remittance stub. Size 9-1/2 X 7 continuous 1-part with built-in security features. Assume 20 lb
35.3		Bank processing costs per paid item with positive pay	0.16	Phoenix-Hecht Blue Book 2009-2010, assumed \$0.16
35.4		Bank processing costs per paid item without positive pay	0.12	Default: Phoenix-Hecht Blue Book 2009-2010, bank per item fee with positive pay
35.5		Cancelled check storage, per item	0	Any per item Bank charges for access to check images in bank 7-year archive. Assume zero, but allow for input as necessary
35.6		Envelopes	0.08	#10 business envelope 4-1/2 X 9 with standard window, white, gummed machine sealable. Input cost based on Staples brand per 100
35.7		Postage	0.44	1 envelope = 1 ounce; USPS 1 oz 1st Class Business Rate - No Zip Pre-sort; Door-to-Delivery
36	Number of check stop payments issued per year, per stop payment	Business cost calculations, environmental calculations	10.01	Phoenix-Hecht Blue Book 2009-2010
37	Per item reconciliation fee. Number of checks that are automatically reconciled by bank, per check	Business cost calculations, environmental calculations	0.07	Phoenix-Hecht Blue Book 2009-2010. Checks issued that must be stopped prior to posting. Duplicate issue, stolen, mis-issued. Stop payments are issued through online banking system.
38	Number of returned ACH Credits, per credit	Business cost calculations, environmental calculations	0.5	Phoenix-Hecht Blue Book 2009-2010. Assume very low to no volume as this is a rare occurrence if prenote is employed. Bank delivers an electronic return. Buyer must determine why the item was returned and take steps to re-originate ACH.
39	Number of ACH Notifications of Change (NOC)	Business cost calculations, environmental calculations	3.53	Phoenix-Hecht Blue Book 2009-2010 Bank delivers NOC information electronically. Buyer must determine why the item was notified, change the payment record on origination software
40	Labor for management and reporting of checks escheated, per hour	Business cost calculations, environmental calculations	22.88	Checks only. Assumption. One hour per 750 checks disbursed. Multipage reports and filings with government authorities (assume 2.5 pages per year)
41	Cost of DUPLICATE payments to suppliers made by check	Business cost calculations, environmental calculations	0	Included in fraud costs, which is calculated on the "Summary" page. Duplicate checks are made due to mistaken re-issue.
42	Cost of DUPLICATE payments to suppliers made by ACH	Business cost calculations, environmental calculations	0	Rarely made as systems detect duplicate origination

**Supplier Maintenance**

Item	Description	Use	Defaults	Source
43	Supplier self maintenance performed on supplier portal, EDI, invoicing, per request	Business Cost Calculations	0	As these are highly automated straight-through transactions to the buyer, no incremental cost is estimated
44	Maintenance requests received via e-mail, or fax, per request	Business Cost Calculations	2.29	Estimated at 0.10 hours at default fully loaded labor cost of \$22.88 for handling of inbound request
45	Maintenance requests received by phone, per request	Business Cost Calculations	5.72	Estimated at 0.25 hours at default fully loaded labor cost of \$22.88 for handling of inbound request
46	Maintenance request keyed into AP system	Business Cost Calculations	2.29	Estimated at 0.10 hours at default fully loaded labor cost of \$22.88 for handling of inbound request

Other Bank Costs				
Item	Description	Use	Defaults	Source
47	Basic Account Maintenance, per month	Business cost calculations	20.14	Phoenix-Hecht Blue Book 2009-2010
48	ACH Account Maintenance, per month	Business cost calculations	41.44	Phoenix-Hecht Blue Book 2009-2010
49	Positive Pay Maintenance, per month	Business cost calculations	75.46	Phoenix-Hecht Blue Book 2009-2010
50	Account Recon Maintenance	Business cost calculations	68.41	Phoenix-Hecht Blue Book 2009-2010
51	ACH File transmission, assumed 52 per year	Business cost calculations	19.11	Phoenix-Hecht Blue Book 2009-2010
52	Other bank costs -ACH-related	Business cost calculations	0	Default is set to zero. Add annual costs here.
53	Other bank costs -Check-related	Business cost calculations	0	Default is set to zero. Add annual costs here.

Other Internal Business Costs				
Item	Description	Use	Defaults	Source
54	Buyer's Electronic Vendor Payment Program Solicitation Expense, per year	Business cost calculations	0	Default is set to zero. Add additional annual costs here.
55	Alternate Mailing Costs (other than USPS 1 oz per piece rate)	Business cost calculations	0	Default is set to zero. Add additional annual costs here.
56	Check Imaging Maintenance (outside of bank processing), per month - number of months per year	Business cost calculations	0	Default is set to zero. Add monthly maintenance fee here
57	Costs of checks that are imaged (add'l to bank imaging) per item	Business cost calculations	0	Default is set to zero. Add per item cost here. Assume negligible, but allows for business input.
58	Other miscellaneous business fees, per month - number of months per year	Business cost calculations	0	Default is set to zero. Add monthly maintenance fees here