Receipt Reduction Guide

for UW departments

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R3 and UW-Madison

About This Guide

If UW-Madison's annually produced receipts were held back-to-back from Madison, they would stretch to Dallas, Texas and beyond. Reducing receipts in most cases is a smart financial decision, helps the environment, and streamlines the process at the register. This guide will help you identify strategies for reducing your department's paper receipts.

Identifying The Problem

Unused paper receipts are a major source of environmental waste and financial waste. Many resources such as oil, trees, water etc. are used in the process of providing a receipt.

In addition to the waste that receipts generate, they also pose a potential health hazard. Thermal receipts, by far the most widely used form of receipt contain Bisphenol A (BPA), whose heat sensitivity makes it ideal for heat-flashing the receipt information unto the paper.

BPA (Bisphenol A)

Background on Thermal Receipts

Thermal paper is the most commonly used type of paper for receipts, as it is cheaper than having ink manually printed unto the paper. Bisphenol A is the preferred chemical to coat the receipt paper with.

What is BPA?

BPA is a chemical widely used in various plastics and resins because of its cheapness and stability, and as mentioned, is also used as the chemical coating for receipts. BPA can easily be absorbed through the skin of those handling it and into the body. The chemical make-up of BPA causes it to act like the hormone estrogen inside the body, and if is present in high doses can disrupt the natural hormone balance in the body.

How do you know if your receipt contains BPA?

The best way to find out if your receipts contain BPA is to contact your supplier. BPA presence tends not be advertised on the box or on website's product listings, so asking your supplier should provide the answer. A quick test you can do to determine if your receipt is thermal paper is to scratch it with a coin. The chemical coating on the thermal receipt will be easily displaced by the scratching, and the receipt will be discolored. However, if you know your receipts are thermal paper, then it is a safe bet that they contain BPA (unless advertised as "BPA Free") as the only cost effective alternative is BPS, which while less studied than BPA, seems to have the same hormonal effects as BPA (http://e-hp.niehs.nih.gov/wp-content/uploads/121/3/e-hp.1205826.pdf).

The Steps to Success

For many companies, printing a receipt with every purchase is an official policy that some do not wish to deviate from. While printing less receipts or changing your entire system to a paperless one can be daunting, there are steps that can be taken to ease the process:

1: Set Up Meetings

Sometimes the biggest hurdle is to get the conversation started. Sometimes receipt waste is easily overlooked, and the best way to get attention to it is to start talking about it. If possible, try to estimate your receipt useage with the "How to Estimate Your Paper Receipts" Spreadsheet" linked later in this guide.

2: Review Policy

Receipts can be viewed very differently by various departments. Review the unofficial/official policy towards printing receipts in your department. Why are all receipts paper? Can some of that paper be avoided? During that process, try to understand the reason for printing in the first place. The accounting staff, for example, might insist on printed receipts to track customer purchases and give them a clear record in the event of a dispute over a transaction. Know how your own system works and brainstorm to address these concerns.
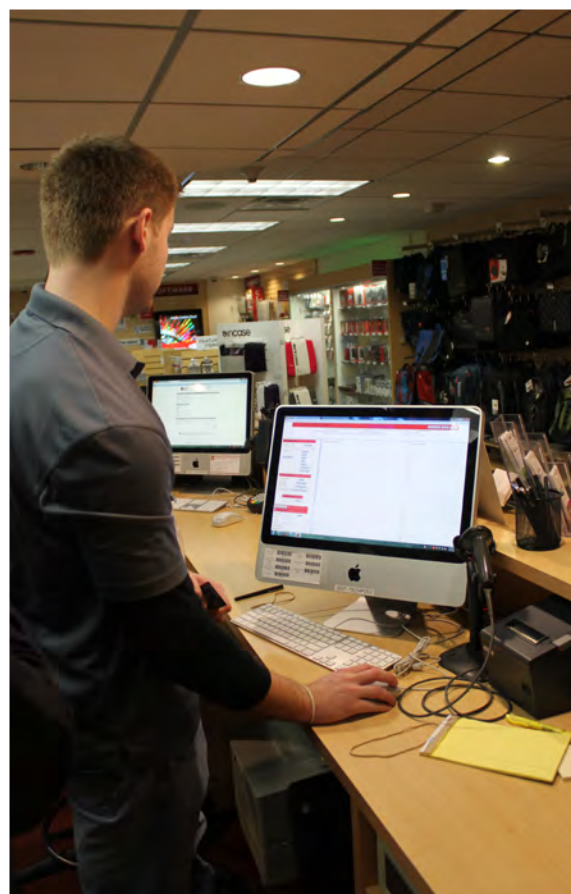
3: Pilot Optional Receipts

You are not the first department to try to reduce printed receipts. Companies all over the country have been replacing their systems with alternatives (see the success stories included in this guide). Find out if any businesses in your area and/or industry have implemented a new receipt policy and see if their strategy works for you.

The Steps to Success

4: Pick a Pilot

After completing Steps 1-3, try to implement a change with a pilot at one of the registers in your department. This pilot can be small, with only one register or large with a whole dining hall.

5: Pilot The Program

Try out your new approach to paper receipts. Be sure to talk to the managers, register staff, and customers to find out what advantages and fallbacks there are with this approach to paper receipts.

6: Change or Continue

If your pilot was a success -- great! Prepare your department with changes as a whole. However, if there were issues raised during the pilot phase try to work through them and begin again at Step 2. .
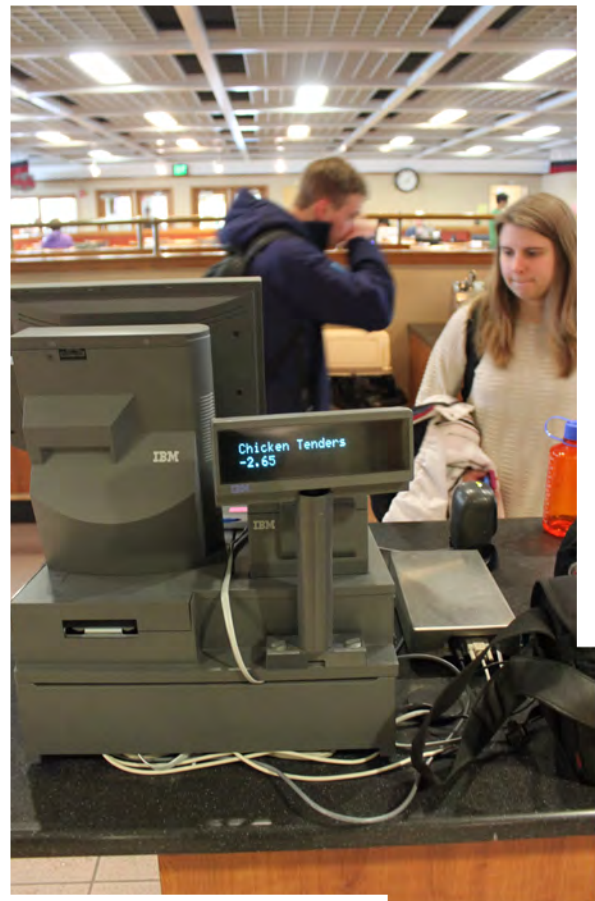
Metrics

How to Calculate Receipt Use

If your department would like to track the financial and environmental benefits of reducing paper receipts -- a baseline usage of paper receipts must first be established. Follow the steps below to establish a baseline using the "Annual Receipt Baseline.xls" spreadsheet which was developed through Professor Holly Gibbs' Nelson Institute capstone 600 class.

Inputs			
Step 1A.	The number of receipts produced per year	3,000,000	receipts
Step 1B.	The average length of a typical receipt	0.50	ft
Step 1C.	Length of paper in a receipt roll which is typically ordered	200	ft
Step 1D.	Number of receipt rolls in one case of receipts	30.00	rolls/case
Step 1E.	Cost of one case of receipts	$ 70.45	dollars

Outputs			
	Feet of reciept paper per year	1,500,000	ft/year
	Miles of reciept paper per year	284	miles/year
	Number of rolls used per year	7,500	rolls of receipts
	Number of cases (assuming 30 rolls per case)	250	cases of receipts
	Cost spent on reciepts	$ 17,612.50	dollars

How to Establish The Baseline

1. Gather the following information

- The number of receipts produced per year.
  (If a receipt is produced with every transaction then the number of receipts is equal to the amount of transactions.)

- The average length of a typical receipt (ft)

- Length of paper in a receipt roll which is typically ordered (ft)

- Number of receipt rolls in one case of receipts

- The cost of one case of receipts ($)

2. Enter the above information in the "Annual Receipt Baseline.xls". spreadsheet

3. Repeat annually

Please note that these numbers are an estimate only. Your department should have access to it's annual purchasing receipt paper costs which will provide more exact financial data. Another aspect to consider is that the "Annual Receipt Baseline.xls" spreadsheet gives quantities of the annual receipt paper used but not account for its quality (BPA-free, recycled content, FSC certified, etc.)

If you are looking to go beyond the environmental metrics shown in the "Annual Receipt Baseline.xls" spreadsheet -- the Office of Sustainability, listed in the Resource section of this guide, can help you perform a more in depth analysis.

Estimates For UW Departments

The Wisconsin Union

Based upon over 3,000,000 register transactions for the Wisconsin Union in 2013, there were 3,000,000 receipts printed the cash register automatically print without an option to deny printing. The total length of printed receipts if held end-to-end would stretch from Madison down to Indianapolis. It is estimated that paper receipts cost the Wisconsin Union over $17,000 per year.

University Housing (Dining Services)

Based upon over 7,000 students registered in UW-Madison Dining & Culinary Services, 4,480,000 register transactions for the UW-Madison Dining & Culinary Services in 2013, meaning that there were an estimated 4,480,000 receipts printed since the cash register automatically print without an option to deny printing. The total length of printed receipts if held end-to-end would stretch from Madison down to Dayton, Ohio. It is estimated that paper receipts cost the UW-Madison Dining & Culinary Services over $35,000 per year.

Other UW-Madison Departments

No estimates of the amount of receipts UW Transportation Services, Babcock Dairy, and DoIT (although already paper-free in most aspects) can be made at this time.

The following are estimates only, of existing UW-Madison departments annually produced paper receipts based on 2013 data. These estimates were developed through using the "Annual Receipt Baseline.xls" mentioned on the previous page.

Success Stories

Division of Information Technology
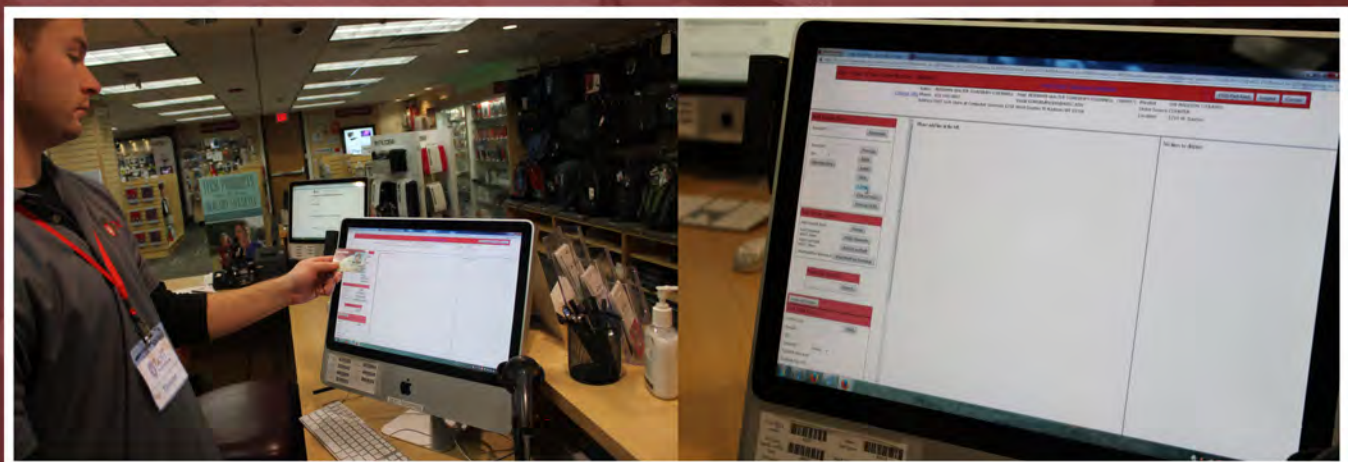

Receipt Optional Since: 2010

Service Volume: Moderate

Primary Customers: UW Students & Faculty

Paperless System: Custom Operating System

Receipt Delivery: E-Mail (via WiscMail)

The Division of Information Technology or DoIT on campus has been using a receipt free system for the last four years. While successful and being a great model of integration, the full system is not suited for mass roll out as the only option. However, if something like DoIt were to be integrated into the campus cash system, it would find itself being wildly successful. DoIt's system is a custom built point of sale operating system built within oracle. It operates just like a simple cash register with all the same capabilities. However, from a look at the system, it may take a bit more training than your typical system. Coded in just 6 hours, the DoIt receipt free system has integrated itself with the MyUW system. It takes the primary email of student or faculty member (@wisc.edu) and uses that to send a receipt. This email is received via simple swipe of the Wiscard, and is marvelously successful. However, this system is unfortunately limited to internal UW systems, it is still possible to realize the potential with plenty of smaller internal UW sources of business

Ian's Pizza By The Slice

Receipt Optional Since: 2012

Service Volume: High

Primary Customers: UW Students & Madison Residents

Paperless System: Square via iOS

Receipt Delivery: E-Mail, Text & Receipt-Free

In relation to DoIt, Ian's brings a different model of receipt reduction. We found that that most important trait of Ian's receipt reduction initiative is the fact that it is in the public sphere. Day in and day out, Ian's deals with a diverse group of customers ranging from all over the board. For a system like DoIt, it operates by taking advantage of UW's internal network, this would spell disaster. However, due to the Square App, business carries on as usual. Square forms the basis of Ian's receipt free model. It is an app that can be downloaded onto any Apple device, and with a single attachment, can turn that iPhone into a Point-of-Sale system. However, it's main selling advantage is that due to the size of this company, if a person is still looking for a receipt, the opportunity to receive it paperless is definitely an option. Square has the capability to send receipts via text and email, allowing anyone with a phone or email account to still keep track of their purchases. There is also the option of just not taking a receipt at all as well. There are only two drawbacks to this system in a university setting. Square is geared toward small businesses who cannot afford the bulky point of sale systems that bigger businesses can. Because of this, it cannot be integrated into existing UW systems, meaning more equipment purchases. At the same time, square takes 2.75% of every purchase to keep itself afloat. Quite hefty for a business churning over a million dollars worth of sales every year. However, even in the end, square stands out as a system that has seen success in the public. This in turn should ease the fears of anyone thinking that receipt reduction in impossible.

Receipt Optional Since: 2013

Service Volume: High

Primary Customers: Residents of Madison

Paperless System: NCR Silver

Receipt Delivery: E-Mail, Text & No Receipt (via NCR Silver)

PDQ is a chain of gas stations and convenience stores based in Middleton, Wisconsin and located throughout the Madison and Milwaukee areas. Much like Ian's, they see a wide array and large volume of customers coming through its doors every day. To handle the volume while keeping lines moving, PDQ uses NCR Silver as its paperless receipt option. Like Square, NCR Silver is an app that runs on the iOS system that allows apple devices to accept credit and debit cards. Unlike Square, NCR is a much larger and older corporation, and they have historically provided Point of Sale systems for larger businesses. Reflecting this emphasis on scale, NCR Silver does not take a percentage cut from individual transactions, but earns its money by charging rent for the use of its hardware, which includes systems shaped like traditional cash registers for businesses who wish to maintain the same look that registers have provided. NCR is an ideal system for larger systems that would require the replacement of a large amount of equipment.

Beyond R3 - Resources

This guide is designed to be a tool for internal process improvement with paper receipts. There are resources available for your department to go beyond this guide. There are entities at UW-Madison which are willing to support your department in reducing paper receipts. These entities along with their contacts are listed below. Do not hesitate to reach out and schedule a meeting with one of them to explore the opportunities for receipt reduction in your department today!

Office of Sustainability, info@sustainability.wisc.edu

Nelson Institute of Environmental Studies, Professor Holly Gibbs, hkgibbs@wisc.edu

ASM, Sustainability Committee, Kyla Kaplan, kskaplan@wisc.edu

UW Physics Garage, Professor Carlsmith, duncan@hep.wisc.edu

WE CONSERVE, Frank Kooistra, fkooistra@cals.wisc.edu

DoIT, Edward Hoover, ehoover@doit.wisc.edu

More information can be found on the UW-Madison receipt reduction website: http://sustainability.wisc.edu/receipt-reduction/