

# **Outsourcing Technical Services**

**Broward Community College**

**Davie Campus Library**

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*Considerations for LINCC Libraries*

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# Outsourcing Technical Services

## Broward Community College

### Davie Campus Library

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*Considerations for LINCC Libraries*

#### **Executive Summary**

In 1998, Broward Community College, Davie Campus Library, investigated and initiated outsourcing of some of their technical services activities and processes to an outside vendor. The results of that experience are presented in this report.

The desirability of outsourcing or contracting with an outside entity to perform library functions or services has been a recent topic of discussion in library literature and forums. Technical services departments have historically relied on outsourcing to perform processing tasks such as barcoding, book labeling, catalog card production, etc. Outsourcing of these tasks frees technical services staff for other library assignments, and may result in a reduction of processing cost and turnaround time. Automation by vendors, libraries, and bibliographic utilities has increased the variety of library processes that may be outsourced. Vendors have responded competitively to the demands of the marketplace by automating the selection of materials and making those materials available in the catalog and shelf ready.

This report details Broward's rationale and decision-making process for outsourcing some of their technical services processes to Academic Book Center. Their decisions were made in the context of student and faculty needs, their responsibilities to LINCC and OCLC, and their obligation as a joint-use facility with Florida Atlantic University.

At the end of the first year of outsourcing, Broward met their original goals. The equivalent of 1.5 FTE staff have moved from technical services to public services duties. These staff members have remarked on how much they are enjoying their new responsibilities. Costs have also decreased. The cost of processing an outsourced item through technical services is \$4.50, compared to the average cost of \$22.00 to process non-outsourced titles. The actual savings that other institutions may realize from outsourcing may not mirror the cost savings Broward achieved.

Outsourcing added \$3.23 to the cost of each book that was received shelf-ready. Time between receipt of an item and its availability for use has decreased from three weeks to one week. Ninety percent of items arrive from Academic Book Center fully processed and with an OCLC record available. Less than 10 percent of books ordered need to be cataloged and processed by Broward staff. Only one percent of books returned to Academic reflected an error on their part.

By observing Broward's outsourcing program, CCLA identified automation issues associated with outsourcing. The outsourcing issues that CCLA identified and will be exploring for resolution during fiscal year 1999/2000 include loading of vendor supplied MARC records into LINCC; automated creation of LINCC holding records; and an increase in frequency of extracts from LINCC for OCLC holding updating.

## **Background**

In the spring of 1998, the Director, Assistant Director, and Head of Technical Services at the Broward Community College, Davie Campus Library, began a review of technical services activities. The purpose of this review was to identify those processes that could be accomplished in a more cost-effective manner while still meeting the needs of the library. At that time six staff members were employed in technical services. Technical services staff was responsible for ordering, receiving, cataloging and physically preparing materials in all formats for addition to the Davie campus collections.

CCLA was asked by Broward to participate in the discussion of their outsourcing options and also act as a resource for their staff in implementing these options. The observation of Broward's outsourcing processes allowed CCLA to gain insight into how LINCC might be enhanced to better facilitate the outsourcing activities of the community colleges.

Broward's 1997-98 budget for library materials was approximately \$421,000. Approximately 6,000 items were ordered, cataloged, and physically prepared for addition to their collections during that fiscal year. The average length of time after between receipt of an item in Broward's technical services department and its availability for use was three weeks. Not including the purchase price of an item, Broward spent an average of \$22.00 to copy catalog and process an item. The formula used by Broward to determine the costs for cataloging and processing items is attached as Appendix A.

Broward Community College operates a joint-use library with Florida Atlantic University (FAU). FAU has contracted with Broward for library services for its students and faculty on the Davie Campus. In addition to providing end-user services to students and faculty, the contract with FAU requires Broward to acquire, catalog, and process library materials requested by FAU faculty for the Davie Campus. Each month Broward submits a list to FAU of all materials added to the Broward campus collections that were purchased with FAU funds. To augment the collection development process as well as to expedite the ordering of materials, Broward uses a slips approval plan provided by Academic Book Center. The approval plan allows librarian and faculty selectors to become quickly aware of titles available in targeted subject areas.

The results of the review of technical services processes led Broward to outsource some of those processes to an outside vendor. Outsourcing involves contracting with an outside vendor to provide services that library staff could otherwise perform. Library material vendors have responded to the marketplace demands of their customers and can provide a variety of technical service activities. Vendors now provide services to libraries from selection and automatic ordering of materials to making those materials shelf-ready.

## **Desired Outcomes of Outsourcing**

Before investigating outsourcing of any technical service activities, Broward examined the service needs of library users. Two immediately identified needs were: (1) to increase service to users by increasing public service staffing levels; and (2) to shorten the time between receipt of library materials and their availability for use.

Broward realized they would not be able to add any new positions, therefore, staffing needs would have to be met by reassigning duties of current staff. The average time between receipt of new materials and subsequent availability was three weeks. To locate bottlenecks in technical services, the steps in processing an item from the time it was received to the time it left technical

services were diagrammed. By a thorough examination of end-user needs and technical services workflow, Broward was able to articulate the desired outcomes to be gained by outsourcing any or all of their technical services processes.

## **Vendor Services**

Broward explored the outsourcing services of their primary vendors. Yankee Book Peddler (Yankee), Academic Book Center, and Ambassador Book Service were investigated. The vendors offer a wide range of outsourcing services, from assisting with collection development and acquisitions to the complete cataloging and physical processing of materials. Vendors attempt to accommodate most outsourcing needs expressed by a library, albeit at a price. Broward examined their vendors' outsourcing service options in the context of:

- achieving Broward's desired outcomes;
- the impact on technical services workflow;
- obligations as a LINCC library and an OCLC member; and
- LINCC interactions.

After examining all three of their primary vendors, Broward decided to limit their initial foray into outsourcing to book materials. Because Broward acquires a small volume of non-print materials, a decision was made to continue to process those materials themselves.

Broward had a long-standing policy of splitting book orders between their two main suppliers, Academic and Yankee. Broward decided that initiating two outsourcing projects concurrently with two different vendors would possibly be overwhelming to manage. In order to select a single vendor, Broward looked at the outsourcing options afforded by each vendor. Cost was a factor in selecting Academic. Academic charged \$0.35 less than Yankee for the same level of book processing. Academic and Yankee both offered flat pricing for their services, and these charges were non-negotiable. An additional selection factor was Broward's long-standing satisfactory relationship with Academic. Broward was pleased with the way in which Academic had responded in the past to problems. Academic's participation in OCLC's *PromptCat* program was also perceived as vital to the success of the outsourcing program. After selecting Academic, Broward placed an initial order of one hundred titles. This test order revealed problem areas to be addressed before ultimately placing 90 percent of their book orders with Academic.

## **Technical Services Workflow Activities**

Broward looked at their current technical services workflow and identified areas that appeared suitable for outsourcing.

### *Acquisitions*

Outsourcing options for collection development and order processing were explored. Academic's slip approval service was selected to supplement the selection and ordering of titles by selectors. A profile of subject areas of primary importance to FAU was set up with Academic. Academic sends Broward 3" x 5" slips listing recently published titles. The slips are distributed to selectors who use them to request titles for purchase. The title slips supplied by Academic contain the bibliographic and ordering information of the imprints in the selected subject areas. Broward enters all orders (title slips, reviews, faculty requests, etc.) into Academic's online ordering service and into the LINCC acquisitions module.

The goal was to outsource as many titles to Academic as possible. However, responsibility for the entire collection development process and selection of titles (regardless of vendor) remained with the librarian and faculty selectors. It was determined that invoicing and receiving of materials could not be outsourced, and that Broward staff would need to continue to verify that the correct materials were received.

### **Cataloging**

The technical services component viewed as ripe for streamlining and benefiting the most from outsourcing was the cataloging and physical processing of books. Because Broward uses the Library of Congress classification system, and most of their materials are trade publications, cataloging copy is readily available for approximately 90 percent of the items they order and receive. One professional librarian and two technical assistants are responsible for all cataloging activity. One clerk physically processes materials to make them shelf-ready.

Cataloging activities offered by Academic as an option in their outsourcing service were examined. Among the cataloging activities offered is the ability to provide a full MARC bibliographic record with a fully processed shelf-ready book. The option of receiving materials shelf-ready would achieve Broward's outsourcing goal to make materials available for use sooner after their receipt in the library.

Broward and CCLA explored the option of batch loading MARC cataloging records supplied by vendors with new titles into the LINCC bibliographic database. Because that database is shared by all community college libraries, the likelihood of duplicate records being added as a result of batch loading vendor records into LINCC was raised. CCLA also raised the additional issue of the frequency of loading records into LINCC required to match the receipt of materials by the library.

When CCLA began to explore ways to accommodate the loading of vendor MARC records into LINCC, it became clear it was a complicated issue that would require additional CCLA resources and planning efforts. As a result of the examination of this issue, CCLA decided to pursue resolution of this issue in the 1999/2000 fiscal year. Broward decided to continue the current workflow of searching LINCC before adding each new MARC record from LCMARC or OCLC to the database.

### ***LINCC Holding Records***

Broward staff is responsible for creating holding and item records in LINCC before a book can leave technical services. As part of the initial discussion of outsourcing issues with CCLA, Broward inquired about automated holding record creation. An examination of programs available to automate holding record creation revealed that none would be suitable in an outsourcing situation. CCLA decided to pursue this issue in conjunction with the automated loading of vendor supplied MARC records.

### ***OCLC Holding Symbol***

As an OCLC member, Broward understood their obligation to add their holding symbol to OCLC for resource sharing. Adding their holding symbol in a timely manner to OCLC is critical to Broward. The OCLC interlibrary loan service is the primary avenue for identifying resources and managing lending between FAU and Broward.

Two options for adding Broward's holding symbol to OCLC records were considered. The first was for CCLA to extract Broward's holdings from LINCC. CCLA would then forward the extracted file of Broward's LINCC holdings to OCLC for updating the OCLC *WorldCat* database. This option did not appeal to Broward, as it would not add their OCLC holding symbol quickly enough to support interlibrary loan requirements between FAU and Broward. FAU relies on the display of Broward's OCLC holding symbol to identify materials available in the Davie Campus library. FAU then uses the OCLC interlibrary loan service to generate requests for those materials.

The second option considered and later adopted was the use of OCLC's *PromptCat* service. Academic is a *PromptCat* participant. A computer file representing titles ordered and shipped to Broward is sent via FTP from Academic to OCLC. OCLC runs the Academic shipment file against the OCLC *WorldCat* database to identify matching records. Matching OCLC records are placed in Broward's OCLC's cataloging save file. Records in Broward's OCLC cataloging save file are available for use by Broward and do not display Broward's holding symbol in *WorldCat*. At the end of 21 days, those records that remain in the OCLC save file are removed by OCLC and Broward's OCLC holding symbol is added to the *WorldCat* database. This ensures that Broward's holding symbol is added to OCLC's database in a timely manner for interlibrary loan activity.

Another advantage in using *PromptCat* is in adding titles to LINCC. Broward decided to continue their current workflow of searching LINCC first for a matching bibliographic record to use for creating a holding record before adding a new MARC record to the database. If no bibliographic record is found in LINCC, the OCLC bibliographic record provided by *PromptCat* in the save file can be downloaded into LINCC. Searching the LINCC database for duplicates before downloading or overlaying an existing LINCC record follows an established workflow pattern. The *PromptCat* OCLC bibliographic record is the source for the call number used by Academic to create a call number label. An additional SOLINET/OCLC fee of \$1.78 was incurred for the first-time use of an OCLC MARC bibliographic record, and also for setting the library's OCLC holding symbol in *WorldCat*.

### ***Physical Processing***

Academic provides different levels for physically processing books as part of their outsourcing service. Levels of physical processing may range from supplying call number labels only, to making the item completely shelf-ready by stamping the book with the name of the library, attaching a date-due slip, barcode, and a security strip. Broward chose to have their books fully physically processed. Broward supplied Academic with Broward ownership stamps and barcodes to use in the physical processing of books. Academic followed Broward's instructions for placement of labels, barcodes, ownership stamp, and security strips. Academic utilized the call number found in the OCLC MARC record for creation of the call number label. In order for Academic to process circulating books separately from reference materials, Broward established separate accounts and profiles for each collection. The account number identified which titles were ordered for their circulating collection and which titles were ordered for reference. Those titles ordered for reference included the appropriate call number prefix. Academic charged \$1.45 to process a book with a book label, ownership stamp, barcode and date-due slip.

## **Decisions**

After examining feasible outsourcing methods and options to meet their obligations to FAU, LINCC and OCLC, Broward then had to determine what technical services functions their library staff would still be required to perform. They identified the need for local library staff to:

- manage quality control to ensure contract compliance;
- verify that the correct materials were received;
- invoice and authorize payment;
- physically inspect pre-processed items;
- catalog and physically process materials that could not be processed via outsourcing; and
- add and maintain holdings to the LINCC and OCLC databases.

## **Contract Issues**

The contract issues that needed to be clarified with Academic were:

- the definition of what would constitute an error;
- credits on items returned to the vendor;
- the minimum level of OCLC cataloging acceptable for use; and
- preference for Library of Congress cataloging records.

Broward was able to resolve two issues with Academic: defining an error and crediting Broward for errors made by Academic in processing Broward's orders. Academic agreed to use full level OCLC records entered by any OCLC member library for processing Broward's materials.

## **Library Staff Issues**

Outsourcing not only has an impact on technical services, but it also causes tremendous change within the entire organization. All library staff must be made aware of the change to routines. Including staff early on in discussions of outsourcing may lessen feelings of loss of control over their work life. There are many implications of deploying staff to the highly visible and sensitive public services area. Public services staff may need to train or mentor technical services staff as they move into interacting directly with the public. Public services staff may feel that their suggestions for improvements to the catalog, such as additional access points to bibliographic records, reclassification of materials, etc., be futile if there is not a "cataloger" to respond to such input.

Broward explored ways to make the staff transitions a positive experience for all library staff. Technical services staff's in-depth knowledge of the Library of Congress classification scheme and subject heading thesaurus, as well as their bibliographic searching skills brought additional approaches to answering queries from patrons. Other Broward transition strategies included compiling public service guidelines and policies that articulated expectations of acceptable service to the public, setting priorities, reviewing reference interviewing for technical services staff, and training on LINCC modules such as circulation. These strategies eased the transition into a new working environment for all library staff.

## **Implementing the Outsourcing Program**

The process used by Broward and Academic in establishing outsourcing services is typical for all vendors. Academic supplied Broward with a packet of information with profiling forms to fill out. The profiling forms enabled Broward to create parameters unique to their needs for acquisitions and processing. The entire profiling process took Broward approximately 60 days to complete. The more complex the environment for ordering, cataloging and processing, the longer the profiling process takes.

While profiling was being completed with Academic, Broward contracted with OCLC to become a *PromptCat* service customer. This required Broward to contact SOLINET and complete a profile with the *PromptCat* service. The time elapsed between the completion of the profiles, the contracts, and the placement of the first order with Academic was approximately 90 days.

In October 1998, Broward placed its first order for 100 titles with Academic under the outsourcing agreement. The first outsourced order was deliberately small. This small order enabled Broward's staff to quickly perform a quality control check on each title. The quality control check revealed a variety of problems such as missing security strips, books not cataloged even though an OCLC record was available, etc. Broward reported that Academic's staff addressed each reported problem quickly and promptly. Subsequent orders revealed an increase in quality and a decrease in problems.

Initial outsourcing problems with Academic concerned the OCLC *PromptCat* service. Only 80 percent of early titles ordered and received from Academic had a corresponding OCLC record. Therefore, 20 percent of the orders required Broward to continue to search for cataloging copy and to physically process the books. When Broward staff searched the OCLC database, 90 percent of those previously unmatched titles had OCLC records. Academic and OCLC's *PromptCat* service worked to resolve this problem. The *PromptCat* service introduced a new detection program that enables better matching between OCLC records and the vendor-supplied order file. As of January 1999, spot-checking 10 percent of orders revealed an error rate of less than one percent.

## **Results of Outsourcing**

### **Broward**

At the end of the first year of outsourcing, Broward met their original goals. The equivalent of 1.5 FTE staff positions moved from technical services to public services. These staff members have remarked on how much they are enjoying their new responsibilities. Costs have also decreased. The cost of processing an outsourced item through technical services is \$4.50 compared to the average cost of \$22.00 to process non-outsourced titles. Outsourcing added \$3.23 to the cost of each book that was received shelf-ready. Time between receipt of an item and its becoming available for use has decreased from three weeks to one week.

Ninety percent of items arrive from Academic fully processed and with an OCLC record available. Less than 10 percent of books ordered from Academic need to be cataloged and processed by Broward staff. Many of the unprocessed books are volumes that would be added to an existing title, for example, the 1999 volume of a title published annually. If *PromptCat* returns a serial or open entry MARC bibliographic record to Academic, Academic is unable to automatically create a complete call number label from the MARC record, because the MARC

does not contain volume level designation (e.g. 1999). Only one percent of books returned to Academic was the result of an error on their part.

Broward is setting up a similar outsourcing arrangement with Yankee for fiscal year 1999-2000.

## **CCLA**

As a result of observing Broward's outsourcing program, CCLA was able to identify areas where an automated processing of records could enhance and further streamline an outsourcing project. The outsourcing issues that CCLA will be exploring for resolution during fiscal year 1999/2000 include the automated loading of vendor supplied MARC records into LINCC; the automated creation of LINCC holding records; and the increase in frequency of extracts from LINCC for OCLC holding updating.

## **Questions for LINCC Libraries Considering Outsourcing**

Broward recommends that other LINCC libraries answer the following questions before beginning an outsourcing program:

- *Why outsource?*  
What is the objective for outsourcing any or all of a particular library's technical services activities? Broward identified two measurable objectives: (1) realigning technical services staff to public services; and (2) making books available sooner to end users. Clear goals of what is to be achieved by outsourcing are necessary before starting an outsourcing program.
- *What are the costs?*  
What are the current costs to acquire and process materials? Knowing your current staff and processing costs will help you identify potential areas for savings. In some areas, your library may be processing items faster and cheaper than a vendor would be able to do.
- *What is my current workflow?*  
Are there areas in the current technical services workflow that could be streamlined? By knowing your current workflow, you may isolate processes that could be streamlined or eliminated. What tasks in your current workflow can only your staff perform? What in your current workflow can be eliminated without a loss of necessary information? Are there pieces of your workflow more suitable for outsourcing than others?
- *Who will manage the process?*  
Who on staff will manage the process from start through execution and ensure compliance? Local staff will still be necessary to manage the contract, receive items, etc. You may unpack a shipment of books and have them go directly to the shelf, but is that really advisable without quality control procedures?
- *What will be the impact on staff?*  
How will staff adjust to the changes that outsourcing will bring? Do they see themselves as part of the process?

- *What is essential to my library?*  
The more customization your library has performed in classification, call number formatting, etc., the more difficult and costly it is to duplicate when titles are outsourced. Do the call numbers on labels need to be formatted a certain way? Must all titles on a particular subject be classed together, regardless of changes to the Library of Congress or Dewey classification?
- *Which vendor or vendors should I use?*  
The choice of vendor or vendors will most likely result from your experiences or the experiences of others with a particular vendor. Because Broward had no experience with outsourcing, they chose to limit their initial foray to one vendor. This allowed them to concentrate on finding solutions to problems that arose, and to have a clearer understanding of all the ramifications of outsourcing.
- *Which formats of materials should I outsource?*  
The choice of formats to outsource depends on a variety of factors. Broward chose to outsource only the book format, as that format represented a majority of their orders, and timely processing was a critical need for them. Local staff was adequately handling other formats, therefore Broward chose not to outsource those formats. Do you have backlogs in a particular format? Could trade materials be outsourced to free up staff to concentrate on other projects? Do you order formats that need a particular expertise to catalog or process that is not found on your staff?
- *What are your obligations as a LINCC library and an OCLC member?*  
As a LINCC library, you are governed by the Guidelines for the Responsible Use of LINCC. As an OCLC member you are also governed by your membership obligations for use of OCLC MARC records.
- *What are your institutional obligations?*  
You may be governed by agreements with other libraries or your business office may have procedures and practices that may preclude taking full advantage of some automated ordering or invoicing processes.

## Appendix A

### Formula for Calculating Cataloging Costs

- 1) Figure the hourly rate to include the cost of fringe benefits (insurance, retirement contributions and other benefits). If you are unable to ascertain the true figure, estimate the cost by adding a percentage of the hourly rate (anywhere from 10 to 25 percent). You now have the true hourly rate.
- 2) Define what processes to include in your definition of cataloging.
  - a) Does it only include searching and editing bibliographic records?
  - b) Does it include creating item records?
  - c) Does it include new titles and items only or “recataloged” titles?
  - d) Does it include physically processing items?
- 3) Step 1 – Figure the number of hours ACTUALLY spent working on cataloging. For example, a person who works 40 hours a week most likely spends about 80 percent of their time actually “cataloging.” Of that time, any time spent doing non-cataloging activities, e.g. working in public services, should be excluded when calculating hours spent cataloging.

Step 2 – Use item 2 above to figure the number of hours spent on each cataloging activity.

Step 3 – Multiply the weekly total cataloging hours by the hourly rate. Multiply the resulting number by the actual number of weeks worked (exclude vacations, holidays, etc.)

- 4) Calculate the number of items processed by cataloging. Be very careful here: Use item 2 above for definitions.
- 5) Step 1 – Divide the number of weekly hours spent doing each portion of cataloging (item 3, step 2) by the total number of hours spent actually “cataloging” (item 3, step 1). This gives you the ratio of how much time is spent on each task (the numbers reached should add together to equal 1.0).

Step 2 – Next, divide the total yearly salary reached in item 3, step 3, by the total number of items processed (item 4). This gives you the cost to catalog each item.

- 6) To determine the cost of each step in cataloging, multiply the ratios reached in item 5, step 1, times the total cataloging cost of each item (item 5, step 2). This gives you the cost of each step in processing each item.
- 7) Step 1 – Add together other costs:
  - a) If your cataloging definition includes processing costs, total processing costs (labels, special materials, etc.).

b) Include any contractual costs (OCLC, Bibliofile, etc.).

Step 2 – Divide the total of other costs by the total number of items processed (item 4).

8) Add item 5, step 2 and item 7 to calculate the total per item cost.

The formula may be used to figure specific costs for specific formats or collections if, for example, you need to know cataloging costs for audio-visual materials.

## EXAMPLE

1) \$12.50

Hourly rate = \$10. I don't know the cost of fringe benefits, so I'll use 25% of my salary as an estimate.  $\$10 \times .25 = \$2.50$ .  $\$10 + \$2.50 = \$12.50$ . This is my true hourly rate.

2) I define cataloging to include cataloging, holding and item record creation, and physical processing (spine label, barcode, security strip, and date-due slip.)

3) Step 1 – 32 hours.

I work 40 hours each week for 50 weeks each year (I had 2 weeks off for vacation and holidays.) I'll estimate that I spend 80 % of my time actually "cataloging." So,  $40 \text{ hours} \times .80 = 32 \text{ hours}$  spent on cataloging each week.

Step 2 – I spend 16 hours cataloging, 6 hours doing holding and item records, and 10 hours processing each week, on the average.

Step 3 – \$20,000

I work on cataloging for 32 hours each week. I make a true hourly rate of \$12.50. This gives me  $32 \text{ hours} \times \$12.50 = \$400$ . This is the total cost each week of my cataloging activity. Multiplied by the 50 weeks I worked, this equals \$20,000 this year spent on my cataloging activities. ( $\$400 \times 50 = \$20,000$ )

4) I processed 2,000 items.

5) Step 1 – Cataloging = .50, holding and item records = .1875, processing = .3125.

I spend 16 hours cataloging, 6 hours doing holding and item records, and 10 hours processing each week, on the average (item 3, step 2). I spend a total of 32 hours working on cataloging activities (item 3, step 1).

Cataloging ratio is 16 divided by 32 = .50

Holding and item records ratio is 6 divided by 32 = .1875

Processing ratio is 10 divided by 32 = .3125

(.50 + .1875 + .3125 = 1.0)

Step 2 – \$10

\$20,000 (item 3, step 3) divided by 2,000 items (item 4) equals \$10 per item processed.

6) Cataloging cost is (item 5, step 1 times item 5, step 2)	.50 x \$10 =	\$5.00
Holding and item records cost is	.1875 x \$10 =	\$1.875
Processing cost is	.3125 x \$10 =	\$3.125

7) \$0.76		
Step 1 – Other costs =	Supplies (labels, etc.)	\$ 320
	OCLC	\$1,200
	TOTAL:	\$1,520

Step 2 – \$1,520 divided by 2,000 items (item 4) equals \$0.76 per items for other costs.

8) \$10.76  
\$10 (item 5, step 2) plus \$0.76 (item 7) = \$10.76 per item total cost.

## Appendix B

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## **Appendix C**

### **Broward Workflow Before Outsourcing**

(Chart will be added later.)

## **Appendix D**

### **Broward Workflow After Outsourcing**

(Chart will be added later.)