

University of Hawai'i at Manoa Library

Workflow and Organizational Analysis

June 2009

DRAFT REPORT



R2 Consulting LLC

www.r2consulting.org

Rick Lugg
Ruth Fischer
Matt Barnes

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I. Introduction

In May, June, and July 2009, R2 Consulting LLC (R2) spent more than thirty consultant days analyzing the selection-to-access workflows at the University of Hawaii at Manoa (UHM) Libraries. The project included four days of onsite meetings and interviews, extensive review of documentation, numerous follow-up discussions via phone and e-mail, preparation of this report, and a return visit to present our observations and recommendations.

The 60 hours of meetings and interviews included the Administrative Group, selectors, Acquisitions, Cataloging, Serials, E-Resources, Systems, Hardcover Labeling, Preservation, Government Documents, the Asia Collection, Special Collections, and others in both Hamilton and Sinclair Libraries.

Without exception, the people we interviewed were open, informative, and engaged. We very much appreciate the professional and friendly manner in which we were received. Our analysis has benefited enormously from the ideas and comments offered by UHM's staff, and the Library is fortunate to have built and retained such a talented group. We very much enjoyed our time onsite.

The overall goal of the project was to study and observe technical services processes at the Library, including:

- How the Library's selectors find and select or accept items in various formats for the Library's collections.
- How the Library's selectors interact with technical services staff in the Library's acquisitions, serials, and cataloging departments at the ordering, receiving, and processing stages.
- Technical services staff procedures at the ordering stage.
- Technical services staff procedures at the receiving stage.
- Vendor selection, interaction with vendors, including foreign vendors, by staff within and outside technical services departments.
- Technical services staff procedures for copy cataloging, adaptive cataloging, preliminary cataloging, and original cataloging.
- Technical services staff procedures for barcoding, labeling, targeting, stamping, and other kinds of pre-shelving item preparation (monographs and serials).
- Library Preservation Department procedures for pre-shelf treatment or binding of monographs.
- Serials Dept. procedures for pre-shelf treatment or binding of serials.
- Technical Services staff procedures for withdrawal of deselected monographs.
- Serials Department staff procedures for serials cancellations and withdrawal of deselected serials.
- Technical Services staff procedures for database maintenance.
- Technical Services procedures in UHM Government Documents and Maps collection.



- Technical Services procedures in UHM public service departments: Special Collections, Asia Collection, Science and Technology Department, Business, Humanities, and Social Science Department, Archives and Manuscripts, Sinclair Library.
- Work performed by UHM technical services staff for UH system, such as database maintenance and authorities maintenance.
- Work performed by UHM technical services staff on special projects such as retrospective conversion, serials holdings cleanup, resolution of old unaddressed data migration problems.
- Technical services procedures performed by or involving UHM Library Systems Office.
- Technical services procedures performed by or involving UHM Library Preservation Department.
- Organizational structure and reporting lines in UHM Library.
- UHM Library budget for staffing, collection development, and collection services.

Our findings reflect a large and complex library operation coping with dozens of languages and formats and an enormous amount of change. This is not dissimilar from other research libraries with which R2 has worked. But UHM is different in some important respects. In many ways, it strikes us as a “traumatized” organization, one that is struggling to cope with a number of difficult, and in some cases damaging, events. While much of this stems from the flood in 2004, and the subsequent recovery and planning efforts, the Library has also been buffeted by a number of other significant changes. All of these complicate and deepen the need to change practices, priorities, and policies. Some examples include:

- The initial migration from the CARL library system to Voyager also brought a change in record structure—from a 2-part record structure (bib, item) to a 3-part (bib, item, holdings/MFHD) record. More than 60,000 MFHDs did not migrate or convert correctly, imposing a large-scale MFHD clean-up that is even now only 50% complete.
- The transition from a UHM stand-alone database to a UH-wide shared database, while useful for resource sharing, imposed significant new system-wide responsibilities on UHM for database and authorities maintenance, while simultaneously imposing policy restrictions driven by other members of the UH system. This has increased the number of problems and the size of database maintenance workload during a time when qualified staff numbers have declined.
- Authority control processing had not been done for more than 20 years. Clean-up, especially in a shared database, generates more work than can be completed.
- During the change from RLIN to OCLC as a bibliographic utility, no UHM holdings were transferred as promised. Their manual update (mostly by students) continues to this day.
- Replacement ordering related to the flood temporarily enlarged workloads. Much of the replacement material was hard to source or already out-of-print, rendering these orders much more labor-intensive than routine orders.
- Many Library staff have been in temporary quarters for years, in less than ideal working conditions. Significant amounts of staff time have been diverted to necessary space and equipment planning for the move to the renovated Collection Services space.
- Projects to convert serials from print to electronic, and large-scale cancellations have accelerated since 2004, as in many libraries.



- The recently-begun stacks inventory, while extremely valuable in the long run, is turning up a host of maintenance problems: items with unlinked barcodes, titles in stacks without cataloging records, etc.
- UHM has a large number of non-circulating locations. This need is handled differently in other libraries – usually with a status in the Circ record. In UHM's case, these dozens of extra locations complicate maintenance and batch processing.
- Each collection within the UHM Library has been allowed to customize the treatment its materials and records receive to a fairly high degree. This extends especially to holdings or MFHD records, where everything from extensive check-in notes to specific enumeration is supported. It also means that creation and maintenance of holdings records absorbs more time than does cataloging itself.
- For a variety of reasons, many of the Library's holdings are not represented in OCLC. This affects services such as Interlibrary Loan, and limits the Library's ability to participate in network-level discovery services such as WorldCat Local. A complete re-set of holdings, which is known as a "reclamation" project, is needed to address this situation. There is disagreement within the Library about both the need for reclamation, and the best way to approach it.
- Organizationally, the Library has suffered disruptions in leadership and direction, with the loss of both the University Librarian and the Head of Collection Services. The interim nature of administration has percolated down to a number of departments, and has resulted in a number of temporary assignments, as well as the drawing of Coordinator-level talent to the Administrative Council. The result is not surprising: a Library with very little consistency in management. Although the recent strategic plan has begun to address many issues, at the operational level there remain many deferred decisions. There is often no effective way to resolve conflicts or to reach decisions –especially Library-wide decisions.
- New, large-scale projects continue to emerge: ledger redesign, the workflow analysis and implementation, which will in turn drive further changes in many areas, along with a sustained focus on standardization.
- The imminent move of technical services departments back into the renovated flood space will temporarily impact productivity and require a period of adjustment for many.
- Budget cuts driven by the financial crisis will constrain necessary resources more deeply than in the past.
- Project management: there is an enormous need to coordinate and sequence of all these efforts, many of which will call upon the same skills and resources.
- And the Library world is not standing still – there are tectonic changes taking place in publishing, discovery and delivery of content to users, library operations, cooperative collection development, and many other areas. While some of these are occurring outside individual libraries, they all have the potential to change priorities and practices in profound and unexpected ways.

Finally, like most libraries, UHM is wrestling with both the transition from print to digital content and changing user expectations. With approximately 50% of the budget currently dedicated to electronic resources, that transition is well underway at UHM. Despite strong efforts in many operational areas, the organization and infrastructure have not fully adapted to this reality.



In sum, UHM is dealing with a history and a set of challenges that is much more complex and daunting than those facing other libraries. But the organization also shows a high degree of resilience, and exhibits many strengths:

- A dedicated and creative staff, many of whom have invested their careers in the Libraries.
- A strong focus on the user, driven by participation in LIBQUAL+, CLIMATEQUAL+ and other forms of user feedback.
- The Hawaiian and Pacific collections are unique, and essentially unmatched anywhere else in the world.
- The Library is a major contributor to national cooperative cataloging efforts through its participation in BIBCO and NACO. This is especially important, given the number of unique names UHM establishes, driven by unique titles in Hawaiian and Pacific collections.
- Unlike some Voyager sites, UHM has in-house expertise with Oracle databases, a critical skill for extracting management data from the system. In addition, the Library has people on staff conversant in scripting languages, which can assist in automating some routine functions. These are useful, high-leverage skill sets.
- The Library has made good use of Voyager “extensions” such as the Catalogers’ Toolkit (developed by Gary Strawn at Northwestern) to support batch processes for authority control and other functions.
- Policies and procedures, especially for monographs, are mostly up to date, well-documented, and searchable through the TreePad intranet developed and maintained in CATSS. Serials is considering adoption of a similar practice.
- The Library has developed and deployed a “gateway” for e-resources access and management that helps significantly with key functions.
- After many years of neglect, authority control processing has been resumed.
- The Library has embarked on its first full-scale inventory in many years.
- The Gifts & Exchange operation is among the more effective we have encountered.
- The Library’s ordering activity for English-language monographs is well consolidated with Blackwell; approval profiles have recently been updated; and most firm orders are placed electronically through Collection Manager.
- Linking of free eBooks to their print counterparts provides additional access options for UHM users.

But, as suggested above, there are also several areas of operational and organizational concern, which can be summarized as follows:

- Cataloging backlogs include 6,882 titles in the “Western Languages” (which encompasses many non-English and non-Roman titles). While these titles all have preliminary records in Voyager and can be rush-requested by users, they will all ultimately require attention from an original cataloger.



- Cataloging backlogs also exist for Japanese and Korean materials; exact counts are not available, but Korean in particular far outstrips available cataloging capacity, in part because so little usable copy exists. For CJK titles generally, there are no preliminary records in Voyager, because they are cataloged in OCLC Connexion rather than the Voyager cataloging module.
- Other, more “informal” backlogs exist as well, in the form of work at individual desks, delays in receiving, bottlenecks in Hardcover Labeling, and titles awaiting evaluation and binding in Preservation.
- Between selection and access, then, delays are possible at virtually every stage of the process. Several of these stages are not visible – i.e., it is not possible to determine in Voyager where the title might be. This often makes it difficult to find requested items, and results occasionally in Library-wide emails asking if anyone knows where the item is. There is no formal check-out process, for instance, for titles going to Preservation. In general, material flows are not under strong enough control.
- Selection and ordering are largely paper-based processes, which utilize manual “worksheets” even when the original title announcement arrives in electronic form. This is highly unusual in a library of UHM’s size and complexity. Both the ordering and receiving functions in Acquisitions are perceived as very slow, despite the fact that they report no backlogs. A fair amount of Acquisitions-related work, such as pre-order searching, bibliographic verification, and identification of appropriate vendors, is performed outside of Acquisitions, and there is a desire in some quarters to create separate miniature acquisitions units, in order to take fuller control of their own material.
- Electronic invoicing is not fully in place for monographs, even for mainstream materials from vendors who support it, such as Blackwell’s Book Services (BBS).
- Monographs claiming has not been done routinely in many years. There are “thousands” of unfilled (and likely un-fillable) orders that likely have funds encumbered against them.
- Electronic resources represents more than 50% of UHM’s expenditures, but staffing and skills directed toward e-resources represent only a small portion of what is needed. Too much staff time is expended on print resources of all kinds.
- Although there are experiments underway with eBooks, the Library has not formulated a real strategy for this emerging format. Policies and procedures for handling electronic monographs and individually purchased electronic reference works have not been established. Since eBook transactions are likely to grow, these processes need to be developed, tested, and communicated, much as e-journal and database transactions already have. Currently, eBook activity is spread across multiple platforms: MyiLibrary, ebrary, EBL, netLibrary, Safari, and some publisher-specific platforms. A more considered strategy is needed.
- Serials claims are sent to vendors on printed forms by mail; electronic claiming, either through Voyager or agent systems, has been considered but never implemented.
- There is limited back-up on critical functions, such as licensing, budgeting, and e-resources cataloging and access trouble-shooting.
- There is no formal collection and evaluation of usage statistics for electronic resources.



Finally, there are a group of observations that can be seen as both strengths and weaknesses:

- The shared UH database enables some tasks (such as authority control) to be handled centrally, and also enables resource sharing among all thirteen members. But this arrangement also limits UHM's ability to control its own data, set policy without negotiation, and to manage holdings records on behalf of other libraries. Further, it imposes responsibility for cleaning up duplicates caused by other members.
- For titles held in multiple formats (such as both print and electronic form) and deemed "stable", UHM adheres to a single cataloging record policy, with the exception of VHS and DVDs. Many believe this approach gives users a convenient and synoptic view of resources. But this approach does require that each record be updated individually—and therefore limits the opportunity to batch load records with updated URLs and holdings from third-party knowledgebase such as Serials Solutions.
- UHM supports multiple access paths to electronic content. In addition to a MARC record that captures both print and electronic versions, access is provided via a link resolver and the Gateway-generated A-Z list. Each of these pathways must not only be created, but maintained as long as the resource is subscribed. While these efforts certainly give users many options, it's worth asking which are most used; how much staff time is involved; and whether maintaining multiple paths is necessary or sustainable.
- Chinese-language material is largely under control and up to date. In part, this is due to extraordinary teamwork among the selector, the APT, and the cataloger. But it is also due to a set of special procedures through which the selector obtains brief MARC records from the vendor (in spreadsheet form), batch loads occur, electronic orders are sent by email, etc. In short, this group has essentially designed its own (very effective) system that relies on Acquisitions only to add PO#s to spreadsheets managed by the Chinese-language specialists themselves.
- Library-school interns are used very effectively in Cataloging to assist with original cataloging work. However, their tenure is typically only 18-24 months, and significant training is required.
- Some elements of the rush request system work fairly well. However, patrons are not always aware of them, and there is too much reliance on rush processes, e.g., priority at receiving, rotating "cataloger of the day" assignments—rather than addressing the root causes.
- UHM technical services has a long history of accommodating individual collection requirements. In one respect this shows a high degree of responsiveness to the needs of public services units—and by extension, to the needs of users. But without some limits or standards being imposed, this level of customization prevents the development of reliable, high-volume systems and processes. A better balance needs to be struck between standardization and customization.
- Some catalogers are strongly opposed to setting UHM holdings against preliminary or minimal records. While the desire to produce only high-quality records is laudable, there are practical consequences to this—especially delays in setting holdings.

Clearly, these lists represent a broad range of challenges, as well as some of the capabilities to meet and overcome them. There's a lot that has to go right every day for an academic library to function well, and UHM is getting many things right, thanks to the ongoing efforts of a



dedicated and experienced staff. We feel privileged to have seen its inner workings. But there is also a good deal of work to be done, from rethinking priorities and retooling processes to changing policies and long-term ways of operating.

In our analysis, R2 has offered some comment on most of these issues. But like UHM itself, we too have had to choose where to focus our first and deepest efforts. Based on comments by Library staff and on our own principles regarding creating and automating a mainstream, we have chosen to devote significant time toward solving one high-volume problem: full implementation of shelf-ready services on the 10,000 units/year purchased from Blackwell. The WCP implementation group can attest to the extent of email correspondence on this topic, for both approval and firm ordered titles. In other areas, R2 has endeavored to make recommendations which fit the University of Hawaii's context as well, though in somewhat less depth. Our thoughts are organized as follows:

- **Adopt Key Library-Wide and System-Wide Policies:** While technical and procedural recommendations can have significant effect, there are several policy-level decisions which could catalyze a transformation at UHM, and allow the changes to be actively managed rather than simply endured.
- **Monographs:** In this section, as noted above, we have provided significant detail on selection-to-access processes related to the Blackwell mainstream. By extending the range and value of shelf-ready services, expanding electronic selection, and further modifying order and receipt processes, we believe that 10,000 books per year could bypass cataloging, hardcover labeling, and preservation, and go straight from receiving to shelf within 3-5 days of receipt. Once implemented, this process should free significant staff capacity in several areas, for re-direction to other tasks and streams of content.
- **Serials and Electronic Resources:** E-Resources need to be acknowledged as a growing priority, both for processing and staffing commitments. The time expended on binding, unsolicited titles, seeking missing issues and other print-related tasks needs to be reduced, and the hours moved toward URL and access checking. We suggest that MARC records for all e-journals be discontinued in favor of access through the link resolver and A-Z list, and the time be redirected to updating holdings for print titles.
- **Resource Description:** Additional services such as Bibliographic Record Notification are proposed. Cataloging standards need to be developed, applied, and enforced across the entire UHM and UH system. Customization of holdings records needs to be reduced.
- **Planning and Assessment:** Similar to many of the libraries that R2 visits, some additional structure would greatly assist the Library's efforts on workflow assessment, documentation, and strategic planning.
- **Organization and Culture:** R2's organizational ideas emphasize the need for management, coordination, cross-departmental decision-making, project management, prioritization, and positioning for the future. At the staff level, we also suggest that efforts need to shift from print-related tasks to corresponding tasks for electronic resources.

Many of the changes we suggest in this report have been implemented successfully in other academic libraries. Some may challenge current thinking and practice; we regard that as part of



our charge. Although we usually expect objections to some recommendations, our sense is that many people at UHM are open to and even eager for change. Many of the ideas we present have been put forward previously by library staff themselves, and we want to acknowledge the interest and honesty shown by the staff members in our onsite meetings.

Our recommendations are numerous, and some are contingent on others. We recognize that they will require significant and sustained effort—much of which will need to take place alongside daily production work. Therefore, it is critical that Strategic Action Team #7, the Administrative Group, and the University Librarian carefully analyze and evaluate each suggestion, and determine which to adopt, which to modify, and how to sequence them. Implementation will require careful prioritization and significant effort if the potential benefits are to be realized.



II. Library-Wide and System-Wide Policies

Throughout this report, R2 proposes many technical, operational and organizational changes. These are intended to help solve specific problems, and we believe that, if implemented, they can improve numerous aspects of UHM's library services. But it is also apparent that such recommendations could have much more power given a more advantageous context. We believe there are a handful of policy-level changes that in themselves could generate significant additional benefit. Further, some key decisions at this high level could dramatically increase the impact—and the likelihood of success—of other ideas. Definitive choices would convey that a fundamental change in outlook is necessary, and is understood and supported at the highest levels of the organization.

R2 has identified a number of such leverage points, and we urge early and urgent consideration of them. We recognize how controversial some of them may be. We also suspect that other, better ideas of the same magnitude may exist. We have chosen these because they relate most closely to the collections and technical services workflows which we are charged to analyze. We are advancing them now because UHM's current situation demands serious re-thinking about core services, priorities, and sustainability. These ideas are offered as catalysts for a transformation in library operations that must be managed rather than simply endured.

These Library-wide and system-wide policies and strategies will force the organization to define limits and set priorities. Most importantly, wrestling with the decisions outlined below will help the Library strike a better balance between perceived user needs and the operational limits that are needed to serve those needs consistently and efficiently. While it is important to maintain an overall focus on the Library's users, it's equally important to remember that effective user service requires structure and rules. Across the UHM operation, there is an enormous need to reduce variation in requirements and to increase standardization. There is a need to maintain commonly-applied treatments for the majority of items in the general collections. The poster child for this issue: CDs and CD-ROMs are handled differently for every collection. While there may be historical reasons for this, such variation introduces continual exceptions to daily processes. And while CD processing in itself may be a minor issue, it is indicative of a mindset that permeates the UHM Library—the premise that each collection can set its own requirements, without sufficient regard to the potential impact on operations.

What's needed is a something more akin to a negotiation, especially for handling material bound for the general collections. But even within special collections there are questions worth asking about the return on investment of certain policies and practices. The Library needs to identify where its efforts should be increased or decreased. New policies should include assertion of greater influence and control for UHM within the UH shared database, and for a stronger role for Technical Services within the Library. [Much better coordination across departments is critical.] The Library itself needs to advocate more effectively within the University for changes to legacy processes that impose labor-intensive but low-value requirements—such as the extreme reliance on paper-based audit trails.

R2's policy recommendations are intended to address some of these issues, and incorporate the following categories:

- Negotiate and assert more control within the UH system shared catalog
- Distinguish more fully between special and general collections
- Define standards for practice and performance (for general)



- Eliminate backlogs and improve control of materials flows (for general)
- Move away from paper-based processes and audit trails
- Emphasize access over ownership
- Move to electronic-preferred for all formats
- Project library resources and expand discovery environments
- Apply cost/benefit analysis to Library collections and processes

Negotiate or assert more control within the UH system shared catalog

When UHM migrated to Voyager from CARL, a critical decision was made to move from an individual database to one shared with the entire UH system. From a resource-sharing viewpoint, this made good economic sense, as such a structure enabled a dozen or so smaller institutions (including a number of community college libraries) to easily borrow from UHM's large collections. From a database management viewpoint, however, a database in which bibliographic records are shared among many institutions introduces significant complications. This is particularly true for an institution that is the largest member of such a group, as UHM is.

There are workflow benefits to such an arrangement. Authority control processing is a good example, in which UHM performs that function on behalf of all members. In general, smaller members of the group benefit more from the shared maintenance than do the larger members. This should mean that UHM has an extremely strong voice in all policy-making and procedures surrounding the shared database. This recognition is built in to the governance structure of the System-wide Cataloging Coordinating Committee (SCCC), where UHM has four representatives as compared to one for each of the other 12 members.

Given that UHM accounts for nearly 90% of database activity, it still strikes us that UHM's needs may be under-represented. As we understand it, there are still significant numbers of duplicate bib records that creep into the system. When those are identified, the holdings associated with one record must be moved to another. But SCCC policies prohibit any library from transferring another's holdings—prolonging the time that duplicate records are in the system, and involving more people than necessary in the maintenance work.

It seems likely that there are other similar instances, where shared ownership of records prevents rapid action. As described to us, UHM has proceeded with the utmost caution in its dealings with the SCCC, not wanting to act like the proverbial 800-pound gorilla. While R2 does not fully understand all the issues or politics, it does seem reasonable that UHM, as the majority contributor to the UH database, assert or negotiate a much stronger role in setting policy and procedure. A decision driven by community college libraries that have relatively small collections could have an extreme effect on UHM when the same decision applies to a collection with thousands of times the records.

Distinguish more fully between special and general collections

Special Collections at UHM are clearly defined as the Hawaii, Pacific, and Rare Books collections. However, in terms of campus programs, HAWN/PACC and the Asia Collection are both defined as "areas of excellence." This introduces an element of confusion into the selection and handling of library materials. The Asia Collection is viewed by some as a special collection, and it mirrors HAWN/PACC in its duplication of some materials with



the general collections, and to some degree in the breadth of its collecting. This extends somewhat to the vernacular East collections of CJK material that also support this program area. From an operational point of view, this tends to introduce exceptions into daily processes, and it becomes unclear to what extent these should be handled as general collections, and to what extent special treatment must be supported.

We believe it is important for UHM to clarify this issue, as difficult as that may be. In fact, it may become more difficult based on the next recommendation, which suggests that all general collections be treated in a more standardized manner than heretofore.

This is also a discussion that extends beyond the Library. The 2008 "Report to Linda Johnsrud, Interim Vice Chancellor for Academic Affairs: School of Pacific and Asian Studies" highlights East Asia, Southeast Asia, and Pacific Island studies in particular as centers of excellence, raising the possibility of focusing programs (and by extension, library resources) more fully in these areas, and perhaps less fully in others. In particular, several questions were raised about whether South Asian collection usage warrants its size. The larger question is really whether the University can support all areas of the Asia Collection at the same level it supports the Hawaiian and Pacific collections.

Within the Library, there has been discussion (and dissension) about integrating the Asia collection into the general collection, in order to reduce duplication and to minimize exception-oriented treatment. According to several sources, the Asia Collection tends to consume a high proportion of resources relative to usage, and despite an unclear mandate. For instance, Asia titles represent the largest segment of the Library's Exchange operation, which requires significant monitoring and attention, since the originating entities tend to be museums and cultural organizations rather than publishers. There is almost as much original cataloging capacity dedicated to Chinese, Japanese, and Korean language materials, as to all other languages, despite the fact that CJK represents less than 20% of the overall collection.

At a minimum, the Asia collection needs to be categorized either as a general collection or a special collection; at present, it is technically a general collection, but the "area of excellence" designation causes it to be treated somewhat differently. Re-affirmation that it is in fact part of the general collection will help standardize the processes related to it.

Define standards for practice and performance (for general collections)

To state the obvious, given that the Hawaiian and Pacific Collections and Rare Books comprise UHM's Special Collections, all other collections are general collections. As such, it seems essential that a standard approach to selection-to-access activities – one that minimizes customization and maximizes common treatment -- be defined and enforced for this material. This is necessary in order to create and sustain a mainstream, and to apply both automation and batch processes to those materials. For a number of reasons, this approach is not fully in place at UHM. The needs and preferences of public services departments have for too long lacked the counterbalance of a strong and coordinated technical services perspective. In one particularly telling comment, we heard essentially that technical service operations support "20 selectors who can ask for anything." Movement is stalled on important—and potentially labor-saving--- issues. One example is a proposed move from a single combined record for print and electronic resources to multiple records, which would enable use of third-party records from Serials Solutions. As we understand it, the public services units disagree among themselves on



the wisdom of this course, and there appears to be no way to reach a decision under those circumstances. Technical Services is, by default, forced to maintain the status quo.

There are numerous other examples. Physical processing standards vary between Hamilton and Asia. Media treatments differ among almost all collections. Holdings statement incorporate heavy use of free-text notes for Cat Sep, multi-part items, etc. Special routing notes are added to some titles. Treatments differ for serials, annuals, analyzed volumes, and proceedings. E-resources are handled differently for HAWN than for other collections. There is no library-wide added copy policy. The number of separate codes for non-circulating locations is much larger than in similar libraries, and complicates batch processing, assignment of default values, and automation. Some collections require special notes about routing after check-in.

These are simply examples; there are doubtless many more such customized practices. The result is that exception-oriented treatment is the rule, and that Library-wide rules and standards—techniques that reduce individual handling and decision-making--- lack sufficient power at UHM. Because of variation and complexity, holdings records take longer to create and maintain than cataloging records themselves.

R2 suggests that the public services and technical services units need to simplify and standardize in all of these areas. To achieve this, it will be necessary to adapt the organization to create a more systemic view of key processes. Variation in practice needs to be controlled, especially (but not solely) in the general collections. We urge UHM to work toward a single standard for holdings records and physical processing. Every request for an exception should be scrutinized closely, and admitted only if there is no reasonable alternative. In an operation that handles UHM's volume of material, standard processing and rules are necessary for the operation to run well.

Imposition of standards will enable technical services to make specific commitments to timeliness and control of materials in process. This is ultimately the major benefit of controlling exceptions: many more titles can be made accessible much more quickly. We make some additional suggestions about these performance standards in the Planning and Assessment section of this report.

Eliminate backlogs and improve control of materials flows (for general)

Many of R2's subsequent recommendations in this report are intended to reduce existing workloads, by taking maximum advantage of Blackwell, OCLC, Serials Solutions, and other services and systems for the highest-volume transactions in monographs, serials, and electronic resources. Combined with a reduced materials budget, and the cessation of flood replacement orders, this should significantly reduce the amount of incoming material requiring item-by-item attention by staff. Within the next six months, there should be an opportunity to eliminate most formal and informal backlogs, and to improve the speed with which materials are made accessible to users.

We suggest that UHM make a goal of eliminating all but the most strategic backlogs—i.e., those where waiting significantly improves the chances of finding usable copy. Mainstream material should flow through all processes without stopping. Staff should no longer hold materials at their desks. At any stage where material is deliberately staged, ongoing counts for both units and the number of days of delay should be kept. Preservation procedures should be adapted to check out books and other items that are



sent there for evaluation or treatment. It should be discernible from Voyager where any title is in the receipt-to-access process.

While this level of control may seem onerous at first, it will rapidly begin to eliminate library-wide emails and searches for missing materials. Also, since the volume of material in process will be steadily diminishing under new procedures, it will become less onerous over time.

Move away from paper-based processes and audit trails

At present, there is a deeply-held perception that the Libraries' Fiscal Office, backed by the University and the State, require an individual's signature on a paper form for every purchase order and every invoice. This is described as an audit requirement, and it has thwarted the change of many procedures over the years. If this is truly UHM policy, we suggest that it needs to be re-examined. Electronic selection, ordering, and invoice processing are the norm in University Libraries. Implementation of these techniques can save significant staff time, by enabling tens of thousands of transactions to be handled in batches with automated support. UHM already owns the necessary systems to support electronic transactions on a large scale. What appears to be needed is some creative thinking about audit trails and record-keeping.

R2 recommends that UHM consider a number of complementary strategies.

First, implement a Voyager/FMIS interface to eliminate re-keying of invoice/voucher data into FMIS. At present, once invoices have been entered into the Library system, print copies are sent to University accounting, where they are re-keyed into the University financial system. Not only is this duplicative work, but it introduces the possibility of error. When last surveyed (around 2002), approximately 40% of ARL Libraries had implemented such an interface; certainly that percentage is higher now.

Second, consider having University Procurement (or whatever department is responsible) certify Voyager as an "enterprise" system. The University of Minnesota pioneered this approach, which has simplified their tracking requirements considerably. Essentially, the Library's materials budget is handled via a handful of line items in the University accounting system, and all details are retained in the Library's own transaction system. (UMN uses Aleph rather than Voyager, but the principle is the same.) UMN Purchasing looked carefully at the Library's system to determine whether all necessary details were held there. Since the major Library systems such as Voyager have sophisticated accounting and fund management modules, they serve their purpose admirably: to track detailed library expenditures that roll up to the aggregate amounts maintained in the FMIS (Fiscam Management Information System).

Emphasize access over ownership

It has long been a reality that no Library can afford to collect all of the scholarly information they would like to have on hand for their patrons. The advent of effective interlibrary loan systems and other resource sharing agreements has helped offset inevitable gaps in collections, though many libraries operate under a philosophy that



local control of materials is the most preferred method of building a collection. Though this may be a longer term goal, we suggest that UHM focus more fully on access as opposed to ownership in building collections. For instance, if an item is available on a trusted repository or through a stable commercial vendor, don't purchase it up-front. Instead wait until access for the item is required by a patron. Instead of acquiring duplicates of common material as a point of policy, move to a policy of providing access just-in-time, if, in fact, that time ever comes to pass.

Reduce allowable duplication

There is an unusual amount of duplication in and between collections and libraries, at least in our experience. Some of this is dictated by the archival protocols for Hawaiian materials. R2 recommends that second or third copy orders be initiated ONLY where the demand can be accurately gauged. All other duplicates in and between collections and other Hawaiian libraries should be disallowed. If necessary, improve the speed of delivery between the various locations. This should include elimination of duplication between the Asia and General collections; even though both copies may circulate at the same rate, those overall circulation rates are low – and a single copy would suffice in most cases. Ebooks, when available for relevant titles, may provide a still better solution.

Limit the multiple copies approach

The Hawaii Pacific collection often orders additional copies of various titles for the general collection as well as special collections. This leads to a large amount of duplication and results in not just extra expense for the titles themselves, but the cost of processing and handling them. We suggest that the Library adopt a new policy of not assuming that just because a title is appropriate to the special collection, that there should be a copy in the general collection as well. Duplicate copies should be a rare exception going forward, rather than the norm.

Move to on-demand eBooks for the general collection

UHM is already launching a patron-driven eBook pilot with MyiLibrary through GWLA. We include this recommendation solely to support the concept. We recommend that the Library carefully weigh the various models and options available for patron-driven eBooks and adopt one (or more) that fit its needs. We also suggest that the Library consider the benefits of moving forward with an eBook aggregator that is integrated with the Library's primary print monograph vendor. As the level of integration between eBook aggregators and print vendors improves, it is likely that on-demand profiles could be integrated with print approval profiles, creating one, seamless solution.

Move to on-demand print books for the general collection

A relatively new option to reduce the investment in title-by-title selection is to experiment with a purchase-on-demand pilot project similar to that currently underway at the University of Vermont (UVM). UVM has loaded records for several large academic publishers with an "order" button in the OPAC (note that UVM is a Voyager library). These publishers will be blocked on their approval plan and the library will rely instead on users indicating interest in specific titles.



Essentially, UVM is moving from a just-in-case purchasing model to a just-in-time purchasing model. While this approach will likely result in a budget savings (though it is too early to tell), the other benefit to this approach is that selectors and Technical Services will be able to reduce the time spent on monograph selection and processing.

Move to electronic-preferred for all formats

A compelling number of studies have come out over the last five years that demonstrate a strong preference for electronic materials by academic library patrons (e.g. the Ithaka report, JISC studies, etc). In a few subject areas where immersive reading is commonplace, such as literature, electronic formats may not be appropriate, but these are clearly the minority. In R2's view, the time to debate the relative merits of print versus electronic format has passed and the clear patron preference for 'e' should be met as fully as possible by academic libraries.

Beyond patron preference, reducing print also drives continuing reductions in selection, ordering, receiving, check-in, claiming, binding, and other print-related tasks. Reducing these manual, item-by-item tasks can free a surprising number of staff hours, all of which can be redirected to other activities that would more directly add value to patrons. The following are specific recommendations on increasing the rate at which the Library moves from print to electronic.

Journals

Elsewhere in this report, R2 commends the Library on its three year effort to transfer print journals to their electronic equivalent. As we understand it, the project focused on journals for which the archival solution is acceptable and perpetual access is assured. The continuing growth of archiving solutions like JSTOR and Project Muse will provide even more opportunity to make similar format transfers in the future. While the previous effort was certainly successful, we believe that the Library must cease viewing the transfer of print to electronic as a 'project' with a start and end date, but see it as an ongoing policy that is continuously implemented. As acceptable electronic equivalents become available, the format transfer should be made soon thereafter.

eBook editions

While some publishers still maintain embargos on electronic books, increasingly, major publishers are publishing eBook editions simultaneous to the print edition. The eBook aggregators that the Library works with will know which publishers still maintain embargos and which publish simultaneously. We recommend that the Library implement an 'eBook preferred' policy where the eBook edition is preferred over print any time they are published simultaneously. Certain subjects and collections could be precluded from this policy (e.g. literature, Hawaii Pacific), but most collections should adopt this as a policy going forward. In terms of the approval plan, UHM will need to work with Blackwell to determine what options are currently available for automatically 'sending' eBooks when editions are published simultaneously.



Reference

Reference collections often have massive footprints and are typically located on prime real estate in most libraries. This puts reference collections in direct competition with increasing demands to increase the number of computer labs, study areas, and other patron-use space. Fortunately, many publishers have moved significant numbers of their print titles into electronic format. In some cases nearly an entire range can be cleared out with the purchase of a single electronic title. And most would agree that reference is very conducive to online use as it does not entail immersive reading and search tools can greatly improve the pace with which relevant information can be found. From both the perspective of space utilization and, perhaps most importantly, patron research preferences, we suggest that UHM enact a policy of transferring all possible print reference titles to electronic only, both the historical collection and any titles purchased henceforth.

Federal Government documents

The future of government document collections has become a prominent issue in libraries across the country. Because they occupy so much space and because use of tangible materials is declining, many libraries have targeted Federal document collections for potential savings, both in terms of staff time and shelf space. And while much has changed in the 140+ year history of the Federal Depository Library Program (FDLP), it is clear that the program is now at a critical juncture.

Many FDLP libraries, true to their mission, are holding fast to traditional models where tangible material is considered the copy of record. At the same time, the FDLP community is working hard to replace paper and fiche with e-content when possible. As with other materials, advantages include speed and ease of accessibility, lower costs, and a more complete repository of government information. The landscape is changing quickly, and participation in the FDLP program is becoming more flexible.

The push to publish more digital and less tangible content is picking up speed, and statistics from the Government Publication Office illustrate how quickly the change is happening. For example, in 2001 the GPO created 14,215 MARC records containing PURLs. By the end of FY 2007 the number of MARC records with PURLs had jumped to 87,000; an increase of over 500% in less than six years. At present, 65% of GPO publications are in electronic format only, and 94% of the remainder is available in both tangible and electronic formats. Only 5% of all US government documents have no e-component.

As a Regional Depository in one of the most isolated major population centers in the world, UHM is in a unique position. Like many libraries, there have been calls at UHM to withdraw from the FDLP program because its stringent requirements require a disproportional investment on the part of the Library. Others contend that withdrawal would be a disservice to the entire region and that ILL relationships will never fully meet the needs of patrons. Both sides of this debate have merit.



In R2's view, the best course of action, at least in the immediate future, is to attempt to move out ahead of the FDLP and make responsible decisions that are cost effective for the Library. Analyze UHM's FDLP profile and make electronic substitutions as the rules allow. FDLP instructions to regional depositories mandate that the regional library "must receive and retain at least one copy of all Government publications made available under the FDLP in printed form, micro facsimile, or tangible electronic format." But, according to the FDLP Guidelines on Substituting Electronic for Tangible Versions of Depository Publications, "a depository is permitted to replace tangible versions with electronic equivalents provided the electronic version is complete, official, and permanently accessible." Adopt a policy of moving to electronic formats wherever possible, both in the historical and current Government Documents collection. Continue to push aggressively for changes to the FDLP program that improve flexibility and cost effectiveness. We recommend postponing the debate over withdrawing from the FDLP until it is determined how much of the collection can be transferred to electronic and how quickly the FDLP will be instituting reforms.

Eliminate print + online purchasing

R2 understands that there are a number of journals and reference titles purchased in both print and online formats. With the exception of print edition that contain a *significant* amount of material not found in the electronic edition, this practice should be discontinued. Not only is it expensive, but it requires additional processing and, in the case of print items, handling. Electronic should be the preferred format and the print edition should be discontinued.

Project library resources and expand discovery environments

Despite next generation search interfaces dramatically improving the search experience, libraries have come to realize that many patrons still do not start their research on the library's website. This was confirmed by OCLC in 2006 when their survey of students found that only 2 percent of patrons start their information on the library's website. Many forward thinking libraries saw this as a call to action rather than an affront to the traditional role of the library. In response, libraries have begun projecting their services into the environments preferred by users. This has taken many forms. For instance, most libraries have configured their link resolvers to be a target of Google Scholar and enabled "deep linking" in WorldCat.org to make their monograph holdings show up in Google Book Search. And rather than viewing Google Scholar as a contingency, major libraries have been featuring it on their library homepage as part of their discovery strategy (see UNC Chapel Hill: <http://www.lib.unc.edu/>). Taking discovery outreach a level further, the University of Washington, began embedding external links in relevant Wikipedia entries to encourage users that use that source to come to their special collections [[link](#)]. The possibilities for projecting library resources are nearly endless. The following are several ideas that R2 believes would be beneficial at UHM.

Expand the Library's presence in Blackboard

Linking Library resources to course management systems strikes us as one of the most valuable services a library can offer to undergraduates as it would introduce them to resources directly relevant to their course(s). Based on the successful efforts of forward thinking libraries in the community like the



University of Rochester (who has heavily integrated library resources into their course management system), we believe there is a great deal of credence to this viewpoint. Due to this, we suggest that UHM systematically approach the development of class pages in Blackboard. In order to respond effectively, it may be necessary to get creative about the division of labor. For instance, once a librarian has identified appropriate resources, the creation of the class page should be handed over to trained staff, or capable student workers.

In the end, while it may be tempting to allow the very visible tasks of desk time and instruction to usurp projecting library resources through Blackboard, we encourage the Library to find some means to take further advantage of this opportunity, even if progress is slow, but consistent.

Project discovery into patron environments

Libraries have begun finding very creative means of projecting their resources into various patron environments. For instance, the Tri Colleges have developed an elegant RSS feed of new titles for patrons, alerting them when material in their area of interest arrive [\[link\]](#). Many libraries are developing 'widgets' that can be embedded in websites that are popular among patrons including iGoogle and Facebook. As an example, UNC's iGoogle widgets can be found [here](#).

UHM has already made some progress on projecting resources into patron environments. Patrons are able to text information from the catalog to their mobile phones and the Charlotte collection is well represented in related Wikipedia entries. There are clearly many additional opportunities to project the Library's resources into patron environments and we suggest that an ongoing effort be launched to do just that. The key will be keeping tabs on the ever changing environments patrons prefer and then finding ways to introduce library services into those environments.

Enhance discovery with a 'next generation' interface

The last several years has seen significant advances in the search and discovery software available for library OPACs. Often called 'next generation' interfaces, these solutions employ Web 2.0 technology to enhance the search and discovery experience for patrons. While some options, such as Primo, Endeca, and AquaBrowser are commercial, others such as VuFind and Scriblio are free, open-source solutions.

Ultimately, the disadvantage to next generation interfaces is that they are another piece of software to maintain (and buy, if a commercial solution is selected). Each of the various next gen discovery software packages has its strengths and weaknesses relative to the individual goals of the library wishing to implement. As we understand it, UHM's "Strategic Action Team #1" is currently charged with investigating options, and may even have made a recommendation by now. We include this recommendation only to support that initiative.

Leverage external data to complement the catalog

Many services with rich bibliographic information, such as Google Book Search, Amazon, and LibraryThing, allow others to utilize their data through APIs. Some libraries have used these sources to greatly enrich their discovery systems for



little or no cost. For example, the Tri Colleges (Bryn Mawr, Haverford, Swarthmore) have added a link to Google Book Search so that students can “preview” a print book prior to going to the shelf [\[Link\]](#). Google’s limited preview of a book adds substantially to the user’s ability to evaluate search results. LibraryThing.com, a website containing millions of member-produced bibliographic records, offers book jacket images and user reviews. Some sources of data will be more appropriate than others, but many options are available and could be utilized at UHM for the patron’s benefit.

Apply cost/benefit analysis to Library collections and processes

The recommendations that R2 proposes in this report are based on the business-oriented principles of batching, mainstreaming, and automating production-oriented processes. A major analytical component that will be critical for UHM as the Library evaluates and implements these recommendations – as well as continuously evaluating processes going forward – will be understanding its costs.

The reality is that there are simply not enough dollars to go around at any academic library to support all the desired initiatives. This requires that the libraries understand what activities result in the greatest benefit to patrons and the relative cost of producing that service. Such analysis will allow the Library to focus on its strengths and develop core areas of excellence rather than pursue a vast array of offerings without being appropriately resourced to do so. The following policy recommendations focus on such tradeoffs. While many of these decisions will likely stir debate, the ultimate goal is to acknowledge that the Library cannot perform all activities to the same level, and that hard choices are necessary regarding which are most important.

Reduce investment in print for general collections

As the Library continues to emphasize electronic over print, it will be necessary to reduce the investment in the print collection for titles outside of special collections. This will not just include the direct cost of materials, but staff time dedicated to print-based activities as well. As is the case in most Libraries that R2 visits, the majority of UHM’s staff is dedicated to print-based activity, though, in this case, nearly 50 percent of the Library’s annual expenditures are for electronic materials. The proportion of electronic materials will only continue to increase, suggesting that the imbalance between staff allocation and budget allocation will continue to grow larger unless changes are made.

To focus more of the Library’s energy on electronic resources, we recommend that print process be deliberately ‘starved’ of staff time. In other words, print-oriented staff should be reallocated to tasks managing electronic resources so those still responsible for print are compelled to rethink priorities and procedures, in order to keep up with the work. Many of the recommendations in this report focus on doing just that, such as reducing print journal check-in; reducing binding; standardization of cataloging, holdings maintenance, and processing (for general collections); quality control via sampling, etc. If adopted, these changes will enable the Library to shift a significant number of hours away from print, while simultaneously making the vast majority of titles available to patrons faster than is occurring now.



Forbid backlogs unless they are strategic in nature

Time spent managing backlogs is expensive; “lost” items (even if anecdotal) cause other departments to lose confidence and expend time and effort maintaining shadow systems and double checking. Though no one at UHM viewed the backlogs as ideal, it appeared to R2 that there was a strong tacit acceptance of backlogs – that sizable backlogs have simply become the norm. Except in cases (like some foreign language cataloging) where an aging backlog is strategic, make it a priority to eliminate backlogs whenever possible. Essentially, we believe that the Library needs to increase the urgency among staff to eliminate backlogs. Unintentional backlogs must be seen as completely unacceptable going forward.

Clearing existing backlogs will require more than simply throwing more people at the problem (which is precluded by the budget). Per many of the recommendations in this report, the Library is going to have to make several strategic decisions such as more fully utilizing the approval plan; optimizing electronic selection and ordering; utilizing brief records in concert with a record notification service; increasing reliance on vendor-based records; reducing scrutiny of external records; and so forth. As is the case with any strategic decision, the downside and the upside must be weighed. Many of R2’s recommendations in this area will result in some loss of local control. However, the upside is that less time and expense will go into managing backlogs and patrons will have significantly faster access to materials purchased by the Library. In our view, this is a worthwhile tradeoff.

Adopt a rules-based approach to weeding

A significant issue facing the majority of academic libraries is the use of physical space and how to make it more attractive and functional for patrons. Physical space clearly has a cost and how it is used represents an opportunity cost. Most of the prime space, of course, is currently filled with physical books, which are declining in importance to the typical user. Collections that are not properly and consistently weeded require more space than is necessary and prevent the Library from utilizing space more effectively. As a case in point, on the way to the opening presentation at the Library, R2 happened to notice in passing a Lotus 1-2-3 reference book from 1989. Maintaining that title on the shelf is a dreadful waist of half an inch of shelf space, but, perhaps, also an indication that weeding needs to be a higher priority.

While the benefits of proactive weeding are increasingly clear, item-by-item weeding decisions are cumbersome and typically require the time of professional librarians. Instead, R2 proposes that Collection Development develop a target and a set of rules to guide a batch-oriented approach to weeding. In addition to duplicates, rules might be established to allow withdrawal of earlier editions, textbooks, outdated reference titles, duplicate formats, and the like.

But deeper parameters will also be necessary. For instance, if a title has not circulated within the past ten years, it should become a candidate for withdrawal. For instance, “candidate” titles that have an acceptable full-text surrogate available through the Hathi Trust or the Open Content Alliance could be



automatically withdrawn. These are by definition low-use titles, and if a copy is needed, an electronic version is available. This, or a similar approach, would allow UHM a relatively low-risk option for opening up valuable space and creating room for new uses.

While rules will vary from subject to subject, the principle is the same. Develop criteria that allow paraprofessionals to move ahead with batch withdrawals. Additionally, selectors could browse relevant portions of the collection and simply pull titles that should be withdrawn. Immediate action should be taken to suppress these records from the OPAC, even if subsequent database clean-up must be delayed.

Require processing funds for large gifts

Some collections at UHM rely heavily on gifts and exchanges, perhaps more so than nearly any other library with who R2 has worked. While a strong gifts and exchange program has certainly benefited some collections, the cost of processing these gifts must be considered when accepting them. By some estimates, the average cost of processing a book is often more than the list price of the title. Under this logic, each gift book received, is, in fact, quite expensive. Therefore, not only should the Library be selective about which gift books it receives (regardless of the language), but it should also attempt to negotiate processing funds for any gifts that it receives from donors reasonably able to provide such funding. Therefore, we believe the Library's policy should be to attempt to procure such funding whenever possible, recognizing that it might not be successful in all cases.

Review collection usage versus investment

As budgets have come under considerable pressure in the academic community, provosts have increasingly been interested in the 'return on investment' (ROI) from each academic unit. ROI used to be a term exclusive to the commercial sector where return on the dollars invested in every activity are always heavily scrutinized. Now there are simply not enough dollars to go around, universities have adopted this mantra and all units, including libraries, have come under increasing pressure to demonstrate the return they are generating for the university based on the dollars they are allocated.

In this debate, the traditional philosophy of collecting with a 'just in case' approach has come under more scrutiny than it has in the past. The reality is that a large portion of most ARL library's collections remains inert, never used after the expense of purchasing, processing, and storing it. A recent, informal study conducted by R2 revealed the following usage among several ARLs:



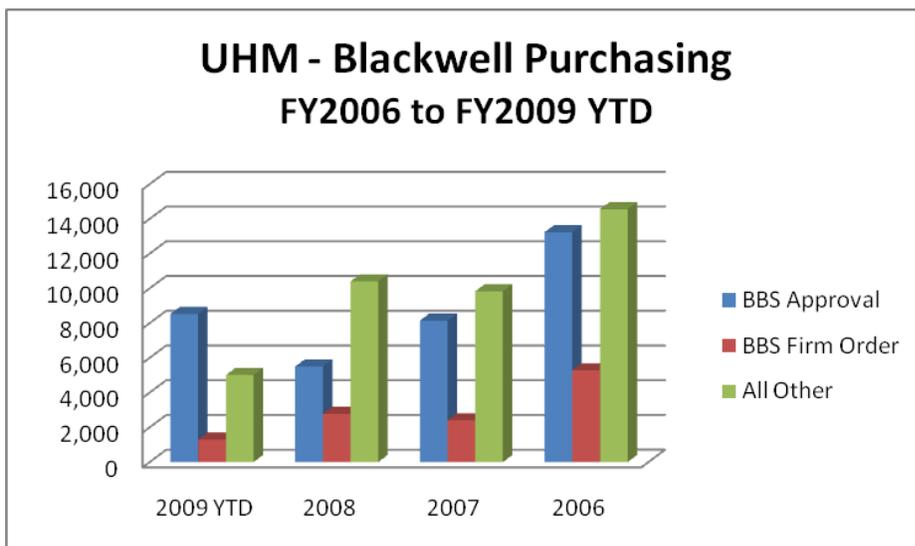
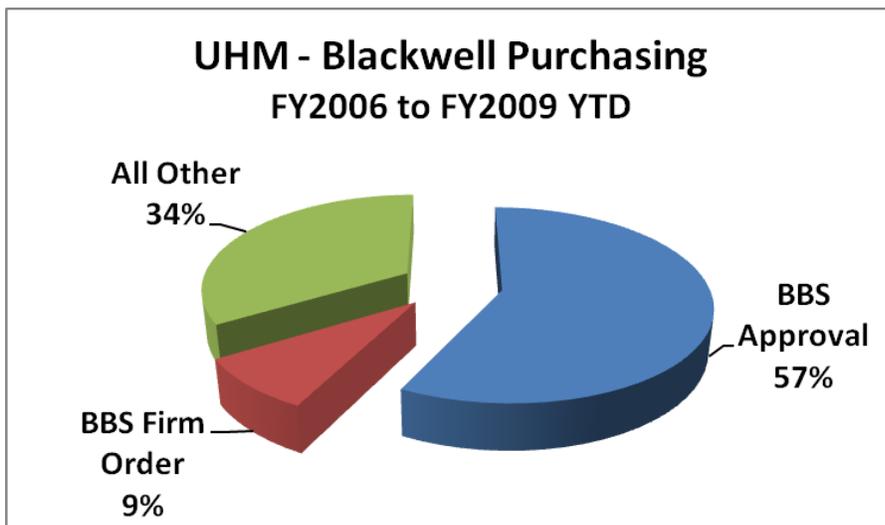
	Holdings	# Never Circulated	% Never Circulated	# Circulated Once	% Circulated Once	Since
ARL 1	2,615,097	1,391,569	53%	350,955	13%	1997
ARL 2	2,177,679	1,386,809	64%	303,199	14%	1993
ARL 3	1,975,483	1,071,356	54%	304,587	15%	1989
ARL 4	2,181,313	1,152,160	53%	373,349	17%	1996

Clearly, in the current financial environment, large and expensive collections where over half of the items collected have not circulated, and another 10 percent have only circulated once, is bound to be a point of debate. While some libraries have attempted to avoid such scrutiny, we recommend that UHM do exactly the opposite and embrace it. Each of the Library's collections should be analyzed to review usage versus investment. Inevitably, the Library will find that there is an over investment in some collections and an under investment in others. For instance, should the Library maintain its current level of support for the South Asian collection when there are less than ten major at the University? Both the direct cost of the material, as well as the cost to process the titles, should be considered in the cost/benefit analysis. The findings of such a study should directly result in changes to the budget allocation for various collections. While there may be some political resistance to such changes, the Library will have quantitative data supporting its decisions, which is often a powerful factor in any such debate.

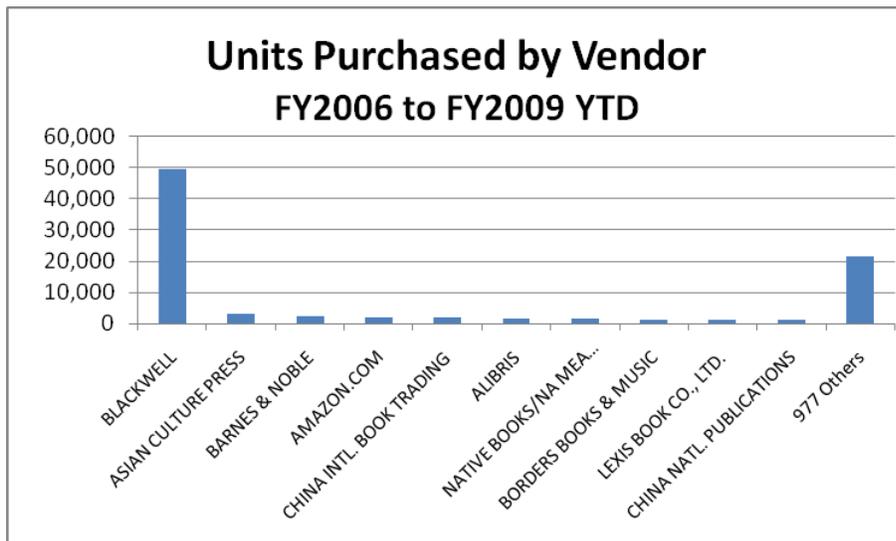


III. Monographs

In FY08, according to Cataloging Department statistics, UHM added 26,524 new monograph titles to its collections. As best we can determine from the 2006-2009 data supplied by UHM (representing all purchased materials), the Library purchased 18,679 of these; the remainder were from Gifts & Exchange. Of these, depending on which set of statistics is used, either 8,500 or 9,500 were purchased from Blackwell Book Services (BBS). However, because the BBS approval plan was suspended for a portion of FY08, those figures may tend to understate the percentage of UHM's monographs that come from BBS. To compensate for data variations, therefore, we've elected to take a slightly longer view, and have analyzed the patterns of BBS shipments across four years, from 2006-2009. While there are several different anomalies related to this period, it seems likely that the overall pattern would be indicative in gauging the scale of this workflow. The following graphs, drawn from detailed data provided by UHM, illustrate that pattern, suggesting that approximately 63% of UHM's monographs are purchased from BBS, and that most of those result from approval profiles.



Because the Blackwell profiles have been suspended, revised, and reinstated during this period, the proportion of books automatically shipped to those ordered via new title alerts and Collection Manager may now vary from these percentages. But the composite size of the BBS stream of activity suggests it as the most important place to focus any workflow changes. A minimum of 10,000 titles per year (8,000 approval and 2,000 firm orders) can potentially be streamlined here, a level of transactions that dwarfs that of any other vendor.

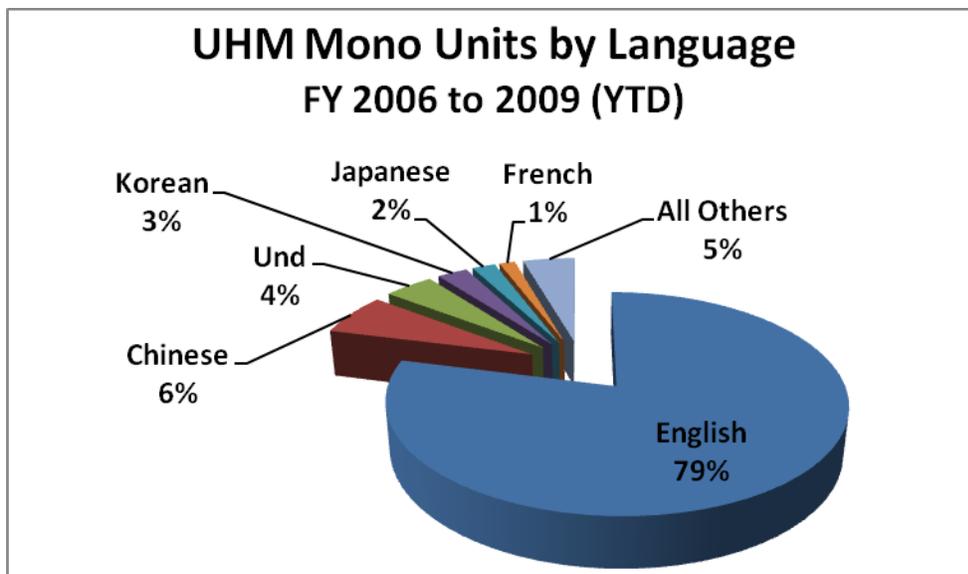


As a result, R2 has spent a major portion of the time allocated to the UHM project in this area. We believe this Blackwell mainstream can provide the foundation for a fully-optimized monographs workflow, and that hours freed in selection-to-access activities here can be redirected to other areas. Even if no other actions were taken as a result of R2's report, streamlining this workflow could alone confer significant benefit to UHM.

In addition, during our interactions with staff in Acquisitions, the WorldCat Cataloging Partners (WCP) group, Blackwell, and OCLC on these workflows and data flows, a number of organizational patterns became clear. Implementation of WCP and shelf-ready books crosses many functions, systems, departmental and organizational lines. Information, processes, and decision making at UHM are not currently structured to support this more systemic approach. Thus, the detailed focus on monographs has also helped us to identify some organizational changes that may be necessary.

Although there was a great deal of discussion during our visit about non-English and non-Roman collections, it is also clear from the UHM data that the Library's mainstream is dominated by English-language material. While we do recognize that these statistics omit Gifts & Exchange material, the impact of those does not change the picture substantially. Essentially, four out of every five books handled are in English. The focus on non-English and non-Roman issues during our visit is interesting in light of this data. As in many areas of the Library's operations, monographic processes seem to focus on exceptions rather than commonalities. There are relatively few rules or standards, and exceptional cases are used to define procedures. This is another indicator that recognizing and supporting mainstream materials first is critical to reducing workloads—and procedural variation--within the organization.





Although there are a number of monographs issues requiring attention, our intent in this section is to describe current processes for BBS approval receipts and firm orders separately, and to conclude with recommendations for optimization. Finally, we will address some key issues related to non-Blackwell firm orders. Issues related to organization and culture will be addressed in a separate section of the report.

Blackwell Approval Plans: Current Situation

[The following section describes the receipt and processing of BBS approval plan titles only. Handling of new title alerts provided by BBS will be covered in the Firm Order section below.]

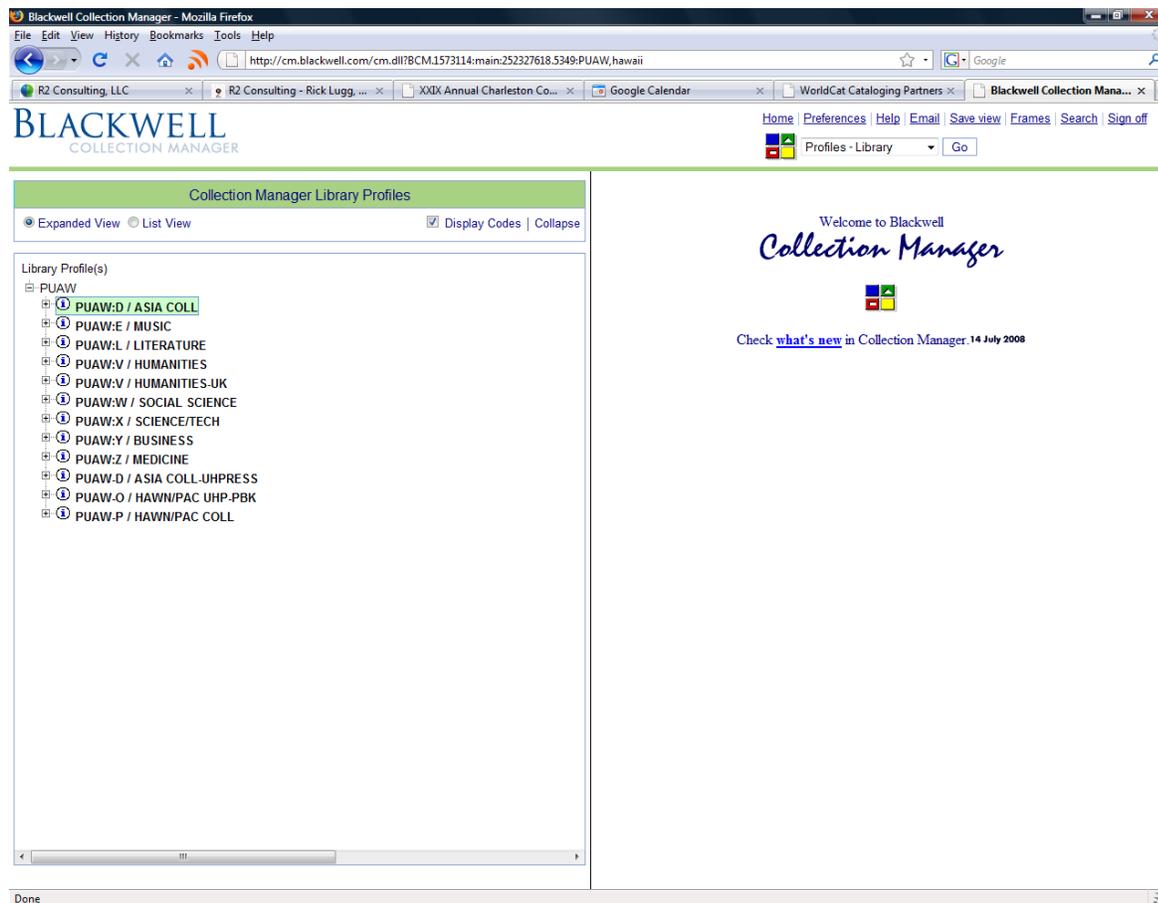
Approval plans are typically the most efficient way to acquire new monographs. Because they are based on rules specified by subject selectors, title-by-title selection, extensive pre-order searching, and creation of individual purchase orders are not required. When, as in UHM's case, an approval plan is supplemented by electronic invoicing, third-party cataloging, and a high proportion of shelf-preparation, the process is even more efficient. All of these benefits, though, can occur only after detailed set-up work is complete. Not only must approval profiles be agreed and implemented, so must profiles for cataloging records, data mapping, and physical processing. Decisions and activities cross multiple departments within the Library. At UHM, selectors, Acquisitions, CATSS, Cataloging, Hardcover Labeling, and Preservation all have a stake. But all those communications and processes must also be coordinated with the capabilities and limitations of Voyager bulk import routines, Blackwell's account codes and manifest preparation. Record selection, de-duplication, and data mapping performed by OCLC must also be factored in. An overview of the entire process is critical to successful implementation. Unfortunately, like many libraries, UHM does not really have any single person or function positioned to see the whole picture and direct the process appropriately. This increases the difficulty of an already-complex implementation.

Within the past year, to accommodate budget requirements, UHM has revised its approval plan profiles with Blackwell, and those new profiles are currently operating. For several months now, the Library has been wrestling with implementation (or rather, re-implementation) of its shelf-ready profiles, and has yet to obtain a fully satisfactory result. Several factors have contributed to the difficulty in implementing WCP cleanly (or rather, transitioning from the BBS MARC with Books program to the OCLC WCP program). Among these are the re-profiling from last year,



and the fact that management of local data must be shared by several systems and organizations, as outlined above.

At present, the following approval profiles are in operation for UHM:



Many of these also have a number of sub-profiles that operate within them. Satisfaction with the automatic shipments and new title alerts generated by these profiles varies. In general, selectors believe that they result in too many “notifications” relative to their limited discretionary budgets. For some disciplines (e.g., Political Science), publisher coverage and price limitations are seen as problematic. Current computer science titles were supposed to have been suppressed (in favor of their e-versions on Safari TechBooks Online), but apparently have not. Some selectors would prefer to abolish the plan entirely and select all new titles individually.

Approval shipments are sent weekly by Blackwell, usually arriving on Wednesday. At present, the Acquisitions Receiving unit typically has three or four shipments awaiting receipt, and works on them of a “first-in, first-out” (FIFO) basis. The basic process is this:

1. Mailroom staff unpacks shipment and puts it on a book truck.
2. Student workers sort the shipment into invoice order, check that the title page of each book matches that on the paper invoice, annotate each invoice line with a + or a – (to indicate whether there is a spine label on the piece), and send the truck to the approval receiver.



3. The approval receiver notifies Systems to load the WCP records that correspond to the shipment she is working on. WCP records are OCLC cataloging records, supplemented by fund, location, and invoice data mapped to specific 9xx fields. They serve a combination of cataloging and acquisitions functions.
4. WCP records are typically loaded within one day. The Voyager bulk import program creates a bibliographic record, a pending purchase order, and a MFHD for each title. A UHM-created script separates the approval titles by invoice number, and the items associated with each invoice are loaded to a single PO. The approval receiver then creates the invoice in Voyager from this PO in a one-step batch process.
5. For titles with spine labels (+), the approval receiver checks each WCP record for errors such as: incomplete title, article in title, call number run-together, blank 3xx fields). Titles with errors are routed to CATSS for correction/completion rather than to the shelf.
6. Once the records for all + titles are checked, the approval receiver receives the invoice (a batch process) and approves the invoice (also a batch process). This occurs based on invoice data supplied in 94x and 98x fields of the WCP record. Data mapping is governed by WCP profiles. These include a mixture of constant data applied at the account level, and library-supplied or vendor-supplied item-level data.
7. Correct + titles (i.e., those with spine-labels and good records) are sorted onto carts for BHSD, SciTech, Asia, and Sinclair. These go directly to the public services areas for shelving. All questionable + titles and all – titles go to CATSS for completion or re-marking.
8. Paper invoices are signed and sent to the Library Fiscal Office.
9. Each shipment that arrives on a Wednesday is typically “out” by the following Wednesday, but receiving states that they are usually 2-3 shipments behind. The actual invoice dates being processed during our visit were from 5-6 weeks earlier.
10. Approval shipments are not necessarily the highest priority. Rush items, problem solving and processing of CJK invoices often take priority. (Late payment of CJK invoices in the past has resulted in suspension of shipments by vendors; these are prioritized to prevent a recurrence.)

There has been some confusion regarding the local data included in the WCP records. As we have worked on this report, R2 has regularly been in touch with the members of UHM's WorldCat Cataloging Partners implementation group, as well as UHM's Blackwell customer service representative, Leah Cushman. As of early July, we believe that these issues have been clarified and resolved. The current specifications for approval accounts as of July 1st are summarized in the following tables. (For the sake of brevity and clarity, we have omitted previous versions and iterations required to reach this point.)

Under these revised specifications, shelf-ready titles destined for the Asia collection or Sinclair should now include the corresponding location prefix on the spine label. Location mappings should now be inserted correctly, and multiple fund codes supported for all titles processed for Hamilton. There are still more steps that could be taken, however, to further streamline the handling of BBS content, and those are outlined in the Recommendations below. These mappings are intended to take effect with the first shipments of the new fiscal year, in July 2009.



APPROVAL ACCOUNT DATA MAPPINGS: EFFECTIVE DATE: 6-26-2009 [Highlighted fields have been changed]

<i>Profile Code in BBS</i>	<i>Profile Description</i>	<i>Profile code in WCP</i>	<i>OCLC Account#</i>	<i>945 b</i>	<i>Fund Code:</i> <i>945 f</i>	<i>Voyager Location Code:</i> <i>949 h</i>	<i>Add Locn Text to spine label?</i>	<i>Location Text</i>	<i>Copy Call# to other field?</i>	<i>Notes</i>
PUAW:D	Asia Collection	PUAW+D	12560005	ASIA	9202D	OuzA	Yes	ASIA	No	Fund & location data both from WCP profile
PUAW:E	Music	PUAW+E	12560006	SINC	9202E	OuzS	Yes	SINC	No	Fund & location data both from WCP profile
PUAW:L	Literature	PUAW	Defaults to 12560001	HMLTN	9202A	OuzH	No	N/A	No	Fund data from BBS manifest; location from WCP account
PUAW:V	Humanities	PUAW	Defaults to 12560001	HMLTN	9202A	OuzH	No	N/A	No	Fund data from BBS manifest; location from WCP account
PUAW:V	Humanities UK	PUAW	Defaults to 12560001	HMLTN	9202A	OuzH	No	N/A	No	Fund data from BBS manifest; location from WCP account
PUAW:W	Social Science	PUAW	Defaults to 12560001	HMLTN	9202B	OuzH	No	N/A	No	Fund data from BBS manifest; location from WCP account
PUAW:X	Science/Tech	PUAW	Defaults to 12560001	HMLTN	9202C	OuzH	No	N/A	No	Fund data from BBS manifest; location from WCP account
PUAW:Y	Business	PUAW	Defaults to 12560001	HMLTN	9202B	OuzH	No	N/A	No	Fund data from BBS manifest; location from WCP account
PUAW:Z	Medicine	PUAW	Defaults to 12560001	HMLTN	9202C	OuzH	No	N/A	No	Fund data from BBS manifest; location from WCP account



PUAW-D	Asia-UH Press only	PUAWD	12560008	ASIA	9202D	OuzA	Yes	ASIA	No	Fund & location data both from WCP profile
PUAW-O	HAWN/PACC UH Press pbk	PUAWO	12560010	PACC	9202G	OuzP	No	PACC	No	Fund & location data both from WCP profile
PUAW-P	HAWN/PACC	PUAWP	12560011	PACC	9202G	OuzP	No	PACC	No	Fund & location data both from WCP profile



Data mappings in WCP (**what's sent**): 6-26-09

Field/Subfield	Data Element	Data Options
915 a		WorldCat Cataloging Partners
945 b	Location text	HMLTN
		ASIA
		SINC
		PACC
945 f	Fund Code	9202A
		9202B
		9202C
		9202D
		9202E
		9202G
949 b	Barcode #	
949 h	Location	OuzH
		OuzA
		OuzS
		OuzP
980 a	Invoice date	
980 b	List price	
980 d	Sales tax	
980 e	Net price	
980 f	Invoice number	
980 g	Copy number	

Data mappings in Voyager (**what's expected**): 6-26-09

Field/Subfield	Data Element	Default (if field is blank)
945 f	Fund Code	9200
949 b	Barcode #	
949 h	Location	Review-Acq
980 e	Price (net)	\$0.00
980 g	Copy number	1



Prior to the implementation of these changes, it was estimated that 60-70% of the items in approval shipments would arrive shelf-ready. Some portion of these was subsequently redirected to CATSS for correction or completion, lowering the total. If we assume, then, that approximately 50% of the approval books now go straight to the shelf, that means that CATSS is continuing to handle up to 4,000 units a year that could potentially be sent shelf-ready. At present, Blackwell firm orders also must all be handled by CATSS, representing another 2,000 titles/year. These two streams equate to an average of 120 titles per week, and represent a substantial workload for CATSS, Hardcover Labeling, and Preservation.

R2 suggests that virtually all 6,000 of these titles could ultimately be received shelf-ready. Although it will take some additional set-up work—and some hard decisions—the pay-off is compelling. All 10,000 Blackwell approval and firm order books would essentially bypass cataloging and labeling (except for some carefully designed sampling for quality control), essentially removing 60% of the monographs workload in these areas. In addition, all 10,000 BBS books could potentially be on the shelves and available to users with five days of receipt. This would be a major improvement over the current composite timeline, and perhaps more importantly, would free capacity in these operations to process other materials more quickly.

Process	Process Time	Cumulative Timeline
Profiled, invoiced, and labeled at BBS	1 week	Week 1
Shipped from BBS to Library	1 week	Week 2
Received in Acquisitions	3-4 weeks	Week 5 or 6
Exceptions to CATSS	2 weeks?	Week 7 or 8
Hardcover Labeling	Currently working on titles received in Acquisitions 6-8 weeks ago	Week 13-15?
Preservation (Softcovers for evaluation)	Varies, depending on whether binding or other treatment is needed	Week ?? ??
Circulating location	Status changes – maybe one day?	

This table is not intended to be definitive, only indicative. In the most routine cases, users are experiencing a delay of 2-3 months for many titles, and much longer for some items. For titles outside the BBS stream, we heard reports that the receipt to shelf timeframe could be longer still. Handling the 10,000 BBS titles fully will remove a significant number of items from these workflows, which in turn will enable Acquisitions, Cataloging, Labeling, and Preservation to deal more expeditiously with titles outside this stream.

Blackwell Firm/NTAS Orders: Current Situation

Blackwell's New Title Alert Service (NTAS) operates in conjunction with its approval profiles. Titles that are not eligible to be sent automatically, but which may be of interest, are announced to the appropriate selector(s) electronically (either through Collection Manager or the BBS E-Notes service) or on printed forms. Firm orders are placed for those titles wanted by selectors. On average, UHM places 2,000 such firm orders each year.



UHM's processes for this stream of material have been, and remain, quite variable. In the past, the Library has experimented with electronic selection via Collection Manager, which many selectors liked. That experiment was curtailed at some point, though selectors don't know why. (Acquisitions reports that specific problems complicated the process, such as serials titles being ordered via Collection Manager, and uneven participation by selectors, which resulted in budget disparities.) Currently, BBS notifications are supplied to the Library in all three formats: printed forms, Collection Manager, and E-Notes (for some).

As we understand it, only a handful of selectors use the printed forms. Most selectors use the electronic versions of the forms to identify titles of interest. However, all order requests submitted to Acquisitions are required to have a paper worksheet. Within BHSD and Science, selectors rely on technicians to sort slips, perform bibliographic verification and pre-order searching, and prepare paper worksheets for sending to Acquisitions. These are annotated with selector initials, fund codes, and notes. Other sources of potential orders for Blackwell include faculty and graduate student requests, titles reviewed in CHOICE, Booklist, and journals, publisher catalogs and RSS feeds, etc. For these titles, library technicians also handle pre-order searching and other tasks. Again, these order requests are sent to Acquisitions in paper form. The CJK selectors and assistants perform even more extensive preliminary work on their orders, transliterating titles, identifying vendors, and in some cases obtaining brief MARC records. For Chinese titles, the selector and assistant prepare a spreadsheet that is ultimately e-mailed to the vendor; Acquisitions' primary role is to create the purchase order and insert that into the spreadsheet.

Over time, it appears that trust in Acquisitions processes has eroded. While we are unclear about the reasons, the prevalence of "shadow" systems testifies to this level of mistrust. Within the Science group, a separate FileMaker Pro database is used to track all orders submitted. Within BHSD, Excel spreadsheets serve a similar function. CJK selectors also keep track of their submissions independently of Voyager. Across the libraries, it seems likely that at least 1-2 FTE are dedicated to running parallel acquisitions systems, and even more are involved in other acquisitions-related processes, such as bibliographic verification and pre-order searching. In some cases, these systems and processes are in place to follow up on Acquisitions. In others, the primary purpose is to create more accurate estimates of available funds than can currently be obtained from Voyager.

This is a serious problem, in our view. A significant amount of acquisitions-related work is being done or replicated outside of the Acquisitions department. Much of it takes place outside of Voyager. Both the CJK group and the Science group have suggested that they also take over order placement, since they are doing most of the preliminary steps already. In R2's opinion, this should be resisted. Instead, the perceived performance issues in Acquisitions should be addressed, and the necessary language skills acquired.

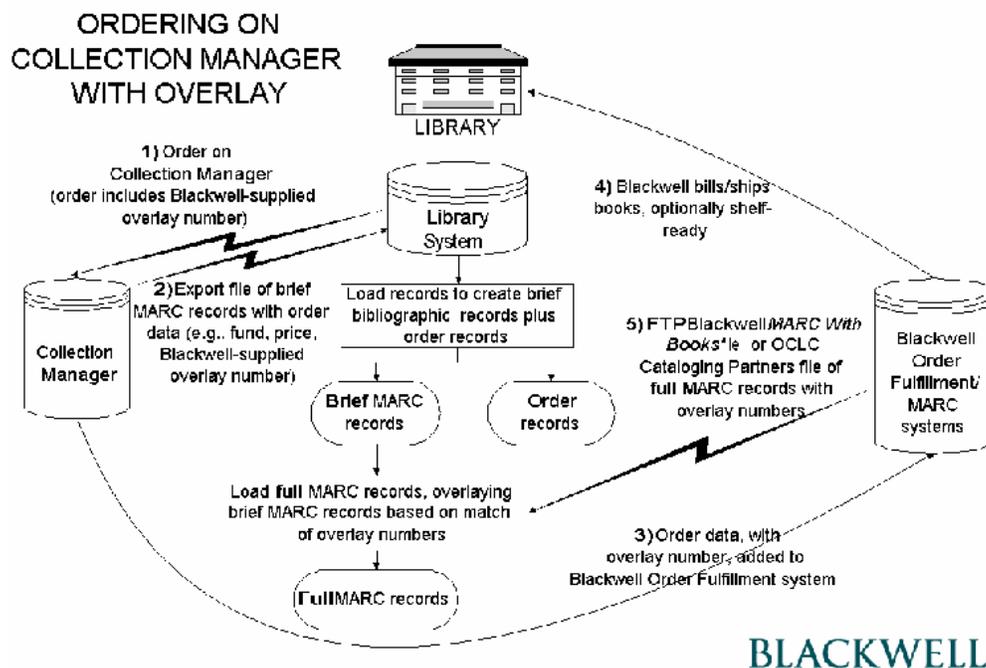
In many respects, the lack of confidence in the Library's systems and operations is broader than Acquisitions. There are legitimate concerns regarding timeliness, backlogs, and the ability to find items that are in process. There is a sense among public services units that technical services operations are not fully under control. [And, to be fair, the widely varying requirements imposed by public services contribute to a level of complexity that no large-scale system can fully accommodate.] Some of this is driven by long-standing database issues, difficulties stemming from migration, and the lack of standardization across UHM's collections. It is clear that a better balance needs to be struck; a technical services operation of UHM's size and



complexity cannot function well without some Library-wide standards and rules. This issue is discussed in more detail in that section of the report.

Once selection decisions have been made, and the various searching, verification, and recording activities have taken place in the respective collections areas, the paper order requests are sent to Acquisitions, where the following steps occur for BBS firm orders:

1. Acquisitions receives order requests (worksheets, catalogs, printed forms, spreadsheets) from selectors in all collections. These include initials, fund code, location code, reserve book room notation, rush designation, and notify notes.
2. Requests are date stamped and rough sorted, pulling rushes to the top. Sorted orders go to the supervisor, who distributes them among three order technicians, based on their level of experience.
3. All firm orders that can possibly be filled by BBS are sent to BBS.
4. BBS order requests are searched first in Voyager. [In many cases, this duplicates the pre-order searching already done by technicians in the collections areas.] Approximately 270 duplicates per year are found at this point. If these duplicates are intended to be added copies, they are handled manually, as described below.
5. Blackwell supports two alternatives for integrating ordering activity between Collection Manager and Voyager. These are referred to as "Ordering on Collection Manager with Overlay" and "EDI Workflow with Overlay." At present, UHM uses the former, which is depicted here:



6. Orders are placed directly in Collection Manager, Blackwell's online system. This allows the ordering technician to also determine whether the requested title is expected on



approval. All firm orders for BBS print monographs (except added copies) are placed on the PUAW+F account, i.e. regardless of whether the order is for Hamilton, Asia, Sinclair, HAWN, PACC or Reference for any location.

7. Once orders are placed, the order request worksheets are filed by purchase order number in bins in Acquisitions, for subsequent matching with the book at receipt.
8. At 1PM and 6PM each day, BBS "order confirmation" records are automatically retrieved from the Blackwell FTP site, and imported to Voyager. These imports create bib records, MFHDs and PO's, and are timed to occur at 1 title per minute, in order to assure that Voyager creates a separate PO for each title. In addition to bibliographic data, these records contain local data as follows.

Field/Subfield	Value	Sample Data	Default supplied by Voyager <if field is blank>
024 a	BBS Title Number	R5-727884	
960 m	Encumber?	0=yes 1=no	1
960 o	Quantity	1	
960 q	Order date	05-26-09	
960 s	Estimated price	\$169.00	Appears to be list price from CM
960 t	Location	OUZH	
960 u	Fund	1400	Defaults to EILEENY (if blank) in Voyager bulk import rules
960 v	Vendor ID	BBSUS	Appears to default to OUZBLANO in Voyager bulk import rules
960 y	Total volumes	0001	
960 z	Currency indicator	USD	
961 f	User ID of exporter	mochida	
961 h	Notes to Blackwell	C2#VN48931	
961 i	Overlay number	VN489431	

9. R2 derived this mapping from sample order confirmation records supplied by the Library, but the original specification would have been set up with Blackwell through the Collection Manager Export Profile:
http://www.blackwell.com/collection_manager/how_to_use/export-profile_form The brief records supplied by this process at point of order should not be confused with the full WCP records that may be provided at point of receipt. These records are intended to



enable batch creation of bib, PO, and MFHD records in Voyager – and to be overlaid by a full cataloging when the title is received.

10. Once the records are loaded, an order technician opens each purchase order to add a UHM-specific prefix to each PO number (OUZM for monographs), and to copy any notify notes from the paper worksheet into the Voyager PO. Other adjustments are sometimes made, such as currency conversion from GBP to USD, copying BBS title number into the Notes field in the bib record (?). [We're not certain why this would be done.]
11. Upon receipt, each PO is then approved, which encumbers the funds, and a note "ordered on [date]" is inserted into the record.
12. Orders for added copies are not placed in Collection Manager, in order to prevent receipt of a duplicate bib record. Instead, a PO is created in Voyager using the existing bib record. The resulting Voyager PO is printed, annotated with the phrase "do not send a record" and physically mailed to BBS.
13. Other Web orders are generated on OttoEditions (HARRASSOWITZ), WorldCat Selection, John Bennett, Alibris, Amazon, and Barnes & Noble. Order confirmation records are not loaded for any of these; rather, orders are first placed directly in the vendor system, and then re-keyed into Voyager.

As with approval, Blackwell firm order shipments arrive weekly. At present, if we understand correctly, the Blackwell firm order account does not receive cataloging records, electronic invoicing, or shelf preparation. They have had these services at various times, and UHM would consider implementing them again. So the current receiving process for BBS firm orders proceeds along these lines:

1. Mailroom staff unpack shipments and put them onto a book truck.
2. Student workers sort the incoming titles into invoice order, pull the original paper worksheets, and stuff those into the books on the truck.
3. The receiver pulls up each PO and bib record in Voyager, double-checks that binding, title, and ISBN match. Some titles apparently have only TEMP records in Voyager, identifiable because they are in ALL CAPS. [It's unclear where these come from.]
4. Upon receipt, the PO that was created upon import of Collection Manager data is converted to an invoice—a one-step manual operation.
5. All books from this stream (approximately 2,000/year) are then forwarded to CATSS. CATSS staff search OCLC for useable copy, adapt as necessary, and overlay the brief record created at point of order.
6. CATSS staff apply and scan a barcode, and copy the call number into the MFHD 852|h and |i subfields. Hardcover are sent to Hardcover labeling, and softcovers to Preservation for evaluation.
7. For those few titles where no good copy exists, CATSS forwards to original cataloging.
8. Paper invoice is signed and sent to the Library Fiscal Office.

As noted by several people during our interviews, claims for outstanding monograph orders are not being made. At one point, Acquisitions staff had time to go through the bin of filed order worksheets, and followed up on unfilled items with the vendor. There has not been time for this for at least the past two years.



Recommendations: Monographs

As noted above, the overall intent of these recommendations is to expand full shelf-ready services to as much of the BBS stream as possible. We estimate that at least 10,000 titles per year could benefit from these services, freeing significant staff capacity, and assuring that most new books are available to users within five days of receipt. In addition, some of these same techniques could be applied to firm orders placed with HARRASSOWITZ, James Bennett, and potentially the largest Chinese-language vendors. R2 urges all UHM management and staff involved in selection-to-access workflows for monographs to approach these ideas with an open mind. While there are many benefits, there are also some necessary trade-offs. We have seen these techniques work repeatedly in other libraries, and are confident that, fully implemented, they will make a noticeable difference at UHM.

Pursue further consolidation of purchasing with Blackwell

It seems clear that consolidation with BBS is already quite advanced, and we applaud UHM's decision to create as large a stream as possible. This in itself creates efficiencies, by making large numbers of titles act alike. Once the changes outlined below are implemented, this stream will be a major work-saver, and every title that can be handled through BBS should be. The gains will be incremental, but, for instance, BBS has an out-of-print service that might accommodate titles currently purchased from Alibris or other OP sources. To the degree that books are bought from Amazon or Barnes & Noble, these should be shifted to Blackwell. There may also be some publisher-direct arrangements that could instead be supplied by BBS. In short, the more titles that are purchased from the primary vendor, the more titles are eligible for extended services.

Refine BBS profiles to reduce the number of notifications

We recognize that the approval profiles were rewritten within the past twelve months, and that some areas were changed to "forms" from books in order to reduce the scale of the plan. Part of the issue is that there is relatively little discretionary money, due to budget pressure. Of the 2,000 firm orders that might be placed, a sizeable percentage will result from faculty and student requests, limiting selector choice still further. Moving completely to electronic selection, as described below, may help by making batches of candidate titles easier to sort, refer, and otherwise deal with. But it may also be useful to eliminate specific publishers from coverage, or to change some categories of material (e.g., reprints, specific readership levels, practitioner-oriented titles) from forms to exclude. Such titles can easily be found by searching Collection Manager if wanted, rather than considering new titles in those categories each week.

Stop receiving printed forms from BBS

Although only a handful of selectors use BBS printed forms, they are currently sent for all titles that result in notification rather than automatic shipment. Most are thrown away. We recommend that all forms be stopped, and that selectors rely on Collection Manager (or BBS E-Notes, which provides them via e-mail) to access their notifications. This would eliminate a small amount of sorting, but more importantly would emphasize that the primary selection and ordering procedures will now be electronic rather than paper-based.

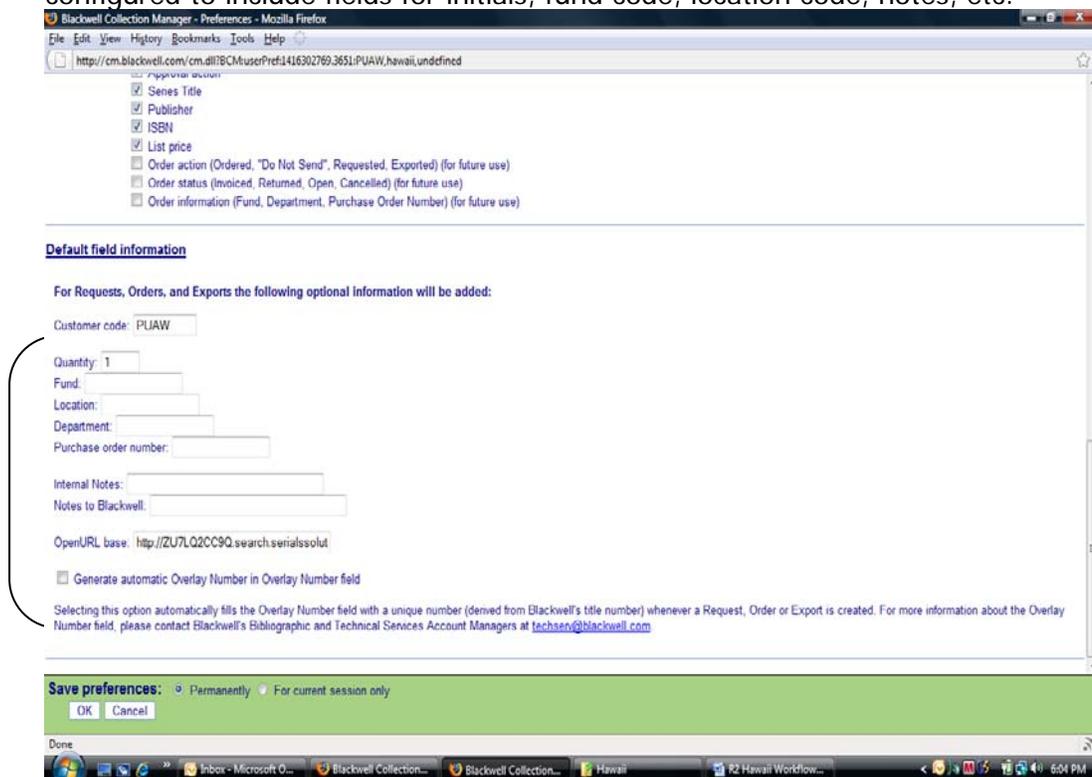
Require electronic selection using Collection Manager

As noted earlier, UHM experimented with electronic selection several years back. Most selectors liked it, and are interested in seeing it revived. Some selectors still use



Blackwell's Collection Manager, but then must print selections to conform to the paper-based workflows in Acquisitions. R2 recommends that UHM establish an all-electronic workflow for Blackwell orders—and ultimately for some other vendors as well. This would eliminate of paper worksheets for all BBS orders. Several changes will be necessary for this to be effective; these are covered in other recommendations in this section. In general, the process would work like this:

- Selectors would review their notifications in Collection Manager, and “request” those they wish to obtain. The Collection Manager screen has or can be configured to include fields for initials, fund code, location code, notes, etc.



The selector would fill in the relevant fields as part of the request, rather than annotating a paper request. Specific BBS accounts would be used to distinguish requests for Hamilton, Asia, Sinclair, Reference, Hawaiian, Pacific, etc.

- Requested items would be aggregated into a Collection Manager request file. Once a day, Acquisitions would access this file, and trigger the export of records from Collection Manager to Voyager. These records would contain bibliographic data from CM, plus fund, location, and account data mapped to 9xx fields. These would be retrieved and imported via the Voyager bulk import program, and would create a bib record (if needed), pending PO (which would encumber funds), and a MFHD. The process will also detect most duplicates, drastically reducing the need for pre-order searching. [*Please note: unlike the current process, these would not be ordered via Collection Manager. Instead, the CM bib and transaction data would be used as the basis for a Voyager PO that would then be sent electronically to BBS.*]



- Order technicians would resolve any duplicates or fund balance issues, and then approve the purchase orders. These would then be sent via EDI to Blackwell.
- Using this approach, any request should result in funds being encumbered and an EDI order being sent electronically to Blackwell within 24-48 hours. The open order will also be visible in Voyager within that time frame.
- In effect, this is a variation on the process that is now in place. The benefits are that the selector can initiate the process, and that most of it is automated.

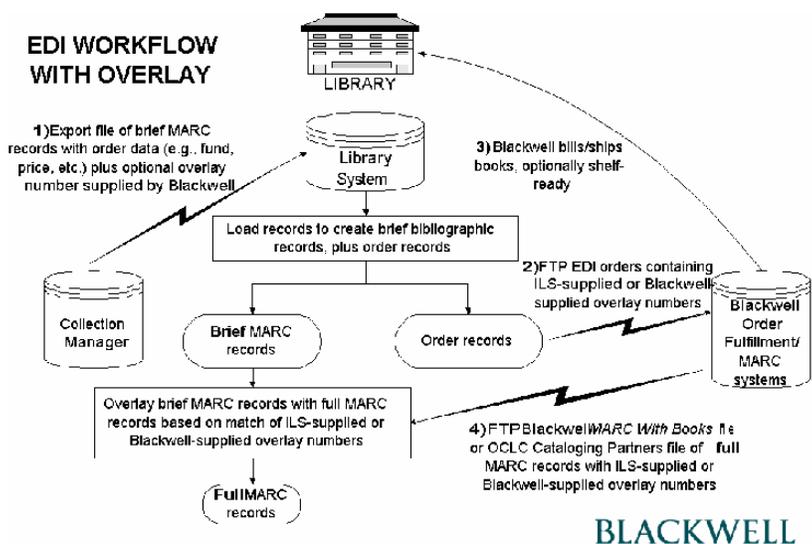
Eliminate pre-order duplicate searching in collections areas

At present, searching is done for multiple purposes. Within BHSB, collections technicians do some "context" searching on behalf of selectors, e.g., seeing what other titles are held by the same author, extent of previous editions, holdings of other UH system libraries. Many selectors also do this work themselves, to inform selection decisions. This is a necessary and valuable step, and we do not suggest changing it.

Duplicate searching is another matter. Although the situation at UHM is complex (i.e., the Library intentionally buys duplicates of some materials; bib records are shared with other institutions), there are system-based routines for identifying duplicates. These are much less labor-intensive than searching individual titles, and most libraries rely on them to identify and prevent duplicates. See the recommendation below: Change Voyager bulk import rules to act conditionally.

Change to the BBS "EDI Workflow with Overlay" option

As noted above, UHM currently uses another option: Collection Manager Ordering with Overlay. R2 suggests that the Library adopt the EDI-based workflow for the reasons outlined above: it enables selectors to drive the workflow, and in effect forces a 24-48 hour turnaround on orders. It keeps encumbrances more current, and transactions more visible. To make this switch will require some changes, but the opportunity can also be used to re-constitute BBS firm order accounts to accommodate shelf-ready services.



Change Voyager bulk import rules to work conditionally

In other libraries, we've seen Voyager import routines configured to act conditionally: if no matching bib record exists, create bib, PO, and MFHD; if a matching bib record exists, add this order and MFHD data to that record. We've even seen this work in a consortial situation, with shared records, with George Washington University, and the Washington Research Libraries Consortium (WRLC). This should be explored more fully, and bulk import routines modified accordingly. If at all possible, this should become the primary method of handling duplicate records. Not only would this eliminate pre-order searching in the collections areas, it should also eliminate pre-order searching in Acquisitions—at least for BBS titles.

Eliminate or automate use of the OUZM PO prefix

If we understand correctly, Voyager automatically generates purchase order numbers as part of bulk import routines. These are all-numeric unique numbers that distinguish individual orders within UHM's system. However, because other UH System libraries are also using Voyager, there is a need to add an identifying prefix to the PO, in case the same number is used by more than one institution. Current UHM practice is to open each PO, and add the prefix OUZM if the order is for a monograph, and OUZS if it is for a serial. This sort of manual intervention has to be avoided if automation is to realize its potential efficiencies. It strikes us that there are two possible ways to handle this. One would be for UHM to simply stop using its prefix, and inform the other UH libraries of this. Let them continue to use prefixes to distinguish their orders; any all-numeric PO is assumed to be UHM's.

Another approach would be to pre-populate the PO field with the prefix, or to automatically insert it as the PO number is being generated. We're uncertain as to whether this can be done without modifying Voyager itself. Here again, George Washington University and WRLC dealt successfully with this issue and may be of assistance.

Implement EDI ordering from Voyager to Blackwell

Another requirement involved in switching to "EDI Ordering with Overlay" is to configure and implement EDIFACT messaging with Blackwell (and any other trading partner who supports it.) This is a routine process, as BBS has many other library customers already using it. But it will require Systems involvement to set up and test. The Voyager EDI module would simply structure the purchase order information into a standard format; BBS's EDI system would interpret the data and process the order. Other UHM vendors, such as HARRASSOWITZ and James Bennett, also support EDI ordering, and a similar approach could be adopted if the order volume warrants.

Create separate BBS firm ordering accounts and WCP profiles for non-Hamilton locations

In order to support shelf-ready services for firm orders, UHM's ordering activity will need to be structured differently. At present, all firm orders are placed against a single account: PUAW+F. However, in order to accommodate different locations and spine label prefixes (i.e., in order for shelf-ready services to work correctly), a separate account is needed for each discrete set of cataloging and processing requirements. In other words, placing a firm order is not just about ordering the book; it's about also ordering its appropriate shelf-ready treatment. If a book is for Sinclair, it needs a



location of OuzS and a prefix of SINC above the call number. The only way to assure such differential treatment is to segregate selection and ordering accordingly.

R2 suggests that UHM establish separate accounts with BBS (and a corresponding WCP profile with OCLC) as outlined in the following chart. Please note: we initially considered establishing separate Reference account for each non-Hamilton location, but 2009 statistics indicated such low use of these locations (e.g. Asia Ref was used 11 times; Sinclair Ref 0 times) that it seemed more sensible to remark the few that would require it.



FIRM, NTAS & STANDING ORDERS ACCOUNT DATA MAPPINGS: PROPOSED [Not in effect as of 7-1-09]

Account Code in BBS	Description	Account code in WCP	OCLC Account#	945 b	Fund Code 945 f	Voyager Location Code 949 h	Add Location Text to spine label?	Location Text	Copy Call# to other field?	Notes & Actions
PUAW+F	Hamilton Firm, NTAS	PUAW+F	12560007	HMLTN	Varies	OuzH	No		No	024 a = vendor control number
New code needed	Asia Firm, NTAS	To be created	To be created	ASIA	Varies	OuzA	Yes	ASIA	No	
New code needed	Hawaiian Firm, NTAS	To be created	To be created	HAWN	Varies	OuzW	Yes	HAWN	No	
New code needed	Pacific Firm, NTAS	To be created	To be created	PACC	Varies	OuzP	Yes	PACC	No	
New code needed	Sinclair Firm, NTAS	To be created	To be created	SINC	Varies	OuzS	Yes	SINC	No	
New code needed	Hamilton Reference	To be created	To be created	HMLTN	Varies	OuzHRef	Yes	Ref	No	
New code needed	"Bypass" account	To be created	N/A	N/A	Varies					For added copies and other instances where no record or processing is wanted
PUAW-Q	Inactive	PUAWQ	12560012							Delete from WCP
PUAW-R	Inactive	PUAWR	12560013							Delete from WCP
PUAW-M	Mono Standing Orders	PUAWM	12560009	OuzH – Move to 949 h?	Varies?	OuzH – but this assumes all are for Hamilton?	No, if Hamilton Yes, if Asia or Sinclair codes are used		No	961 u = PO# 981 a = Approval plan subprofile code



It will be important that selectors, Acquisitions, and Cataloging staff all understand this account structure, as the choice of account at point of selection will have effects at several subsequent points in the process. Of course, most selectors will only use one or two of the accounts, so the choice will be relatively simple. (For instance, if a title is for Asia, the only decision is whether it is for Asia Reference or Asia stacks.)

Implement WCP cataloging and shelf-ready services for firm orders

Once the account structure outlined above is in place, it will be possible to obtain WorldCat Cataloging Partners records and shelf-ready processing for all firm order accounts that want them. (We understand that HAWN and PACC may not.) Set-up here will require creation of a WCP profile for each firm order account, with appropriate data mapping, as outlined in the firm order chart above. This should enable another 2,000 units a year to arrive shelf-ready, reducing workloads in CATSS, Labeling, and Preservation.

Reinstate 100% delivery of WCP records for all accounts

At one point during its initial implementation of WCP, UHM had opted for OCLC's "100% delivery" option. According to OCLC's description of this service: "The 100% record delivery option offers a guarantee of a record for every title with an LC call number and at least one subject heading for all non-fiction titles. This option requires an additional fee, based on your library's OCLC cataloging subscription." The additional fee for UHM is \$9,371.23, or just under \$200/week.

As we understand it, for any title for which there is not a full record in WorldCat, OCLC cataloging staff will create a bibliographic record with a full LC call number and at least a single LC Subject Heading. (The OCLC staff member is based in the Blackwell warehouse, and so has access to the book for cataloging.) This allows a spine label to be produced for every book shipped; adopting this approach would assure that all 10,000 Blackwell titles arrive ready to be shelved.

As is probably clear, the book could go to the shelf, but the cataloging record itself would not be full. It would, however, be accessible by author, title, a single subject heading, call number, and possibly series, if that information appears on the title page. In short, it is more accessible than it would be if it simply entered the Library's processing stream. It could be physically located without help or a special request process. And, the 20-25% of Blackwell books this represents would not have to go to CATSS, Hardcover Labeling, or Preservation, as they do now.

In the following recommendation, we suggest an automated mechanism for tracking and upgrading these records. But many large and prestigious libraries, including Stanford, the University of Chicago, the University of Minnesota, Harvard, and others have elected to live with this level of access for the relatively small number of titles involved. It allows their cataloging and processing staffs to focus on other materials—ones that have no access at all. In our view, this would be worth considering at UHM, albeit after a close look at the additional records provided under the 100% option.

Implement OCLC Bibliographic Record Notification

OCLC's Bib Notification service is designed in some respects as a companion to WCP. In a nutshell, it automatically delivers updated MARC records as they become available in WorldCat. Because OCLC has both the Library's holdings information and a history of what less-than-full level records have been sent, updates can be targeted and overlaid based on OCLC number. Since the call number has been established earlier, there are not likely to be



changes that require pulling or re-labeling the book. In brief, if a better record enters WorldCat, the updated version is supplied automatically.

Change “Set Holdings” from 120 days to immediate

We understand that this decision has been extensively debated at UHM. At present, holdings for new monographs are not added to OCLC until 120 days after they are matched with a WorldCat record when shipped. As we understand it, the delay is intended to avoid disappointing users or ILL requests that might occur while the book is in transit and in process at UHM. R2 strongly recommends that this be changed, and that holdings for new monographs be set immediately. Under current procedures, the WCP file is not loaded to Voyager until the receivers are ready to work on it. Once the books are fully shelf-ready, they should arrive in the public services units within 3-5 days of receipt. It would make sense to have holdings set at that point.

Beyond that reason, we see it as useful to have the pressure of immediate visibility as a reminder that timeliness of receipt and availability is the primary goal. Immediate setting of holdings (as well as an immediate status of “available”) will instill a sense of urgency that will help get items to the shelf more quickly. In other words, the goal should not be to avoid disappointing users by masking the problem, but rather by solving the problem.

Implement EDI invoicing for BBS monographs

Voyager is unusual in the way it handles electronic invoicing. For approval titles, it uses “embedded order data”, in which invoice information is carried in 9xx fields of MARC records. The system can be configured to build invoices in batch from those files. However, embedded order data is not supported for firm orders an entirely different method is used: EDI or EDIFACT invoicing. This can be confusing for libraries trying to implement both. EDIFACT invoicing, like EDIFACT ordering, specifies a separate structured format to carry invoice data from the Blackwell fulfillment system to Voyager. This EDIFACT file is sent separately from any bibliographic records. The invoice data for firm orders corresponds with the original PO number supplied in the EDIFACT order. The invoice file is processed separately from the corresponding WCP records. There are some fine points related to line item numbers and matching of bib data to invoice data, which UHM would need to explore further. But again, numerous other libraries have implemented this, and it is the only way to assure electronic invoicing for firm orders. As with EDI ordering, EDI invoicing could also work for HARRASSOWITZ and Bennett shipments, if the transaction volume warrants.

Copy call number to 852 in MFHD upon import for approval shipments

In order for a newly-acquired book to be circulation-ready in Voyager, its call number needs to appear in the holdings record (in the 852 field) as well as in the bib record. At UHM, the call number is copied as one of the final steps in cataloging. For approval titles, it appears that the bulk import rules could be configured to include this step, although there are some questions to be resolved about where the call number is copied from. In one instance, the call number copied into the 852 did not match the call number on the spine label. There appears to be no provision to move the call number in any WCP instructions, so our assumption is that the Voyager bulk import program would take the call number from the first 050 field. Again, this would need to be verified, but correct configuration should assure that the correct call number is copied into the MFHD automatically.

For firm ordered titles, this process is slightly trickier. At point of order, when the initial brief bib record is created, Voyager also creates a MFHD. When the brief bib is overlaid with the WCP record, however, Voyager does not permit overlay of MFHD data. Rather, the existing



MFHD must have the call number added to it. To our knowledge, there is no automated way to do this; we have worked this problem numerous times with other libraries, and even drafted an enhancement request to Endeavor back in 2005. Nothing has come of it. This means the call number must be copied into the 852 at receipt. In most libraries that receive shelf-ready material, this step is actually performed in Acquisitions, as part of the receiving process—not routed to Cataloging. We recommend that UHM adopt this approach, in order to push this material toward the shelf, and to minimize exceptions.

Eliminate 100% review of WCP records; adopt a sampling approach

Bulk loading of records such as WCCP can remove cataloging staff from slow item-by-item work, adding tremendous workflow leverage. However, in many cases libraries continue review every record in a set, which largely negates the advantage of batch copy cataloging, as it maintains a focus on item-by-item work.

As R2 understands it, Acquisitions staff review all WCP records as they come into the Library. The 300 field is checked, as are title and author. In order to fully leverage the advantages of WCCP, we recommend that UHM eliminate this 100% review of WCP. Instead, we suggest that the Library take a less intensive approach and control WCP quality through sampling. A simple check should be performed on about 5 percent of incoming records (and perhaps on in-house records as well). The focus of this review should be limited to those errors that could impede access, including: call number, barcode, title, author's name, date of publication, and the existence of at least one subject heading. Rather than seeking or expecting perfection, it is important to establish and communicate an acceptable error rate. It can be as low as 2% or 3% and still be useful for purposes of workflow efficiency. If the sample being reviewed is within UHM's accepted error rate, no more review should be conducted on that record set. If the sample exceeds the accepted error rate, additional review is justified. This work could potentially be performed by students in receiving, based on specifications defined by Cataloging.

These quality control specifications should be simple and reasonable. For instance, errors in the 260 or 300 fields on DLC and PCC records do occasionally occur, but also typically don't impede patron access. Errors in 100 and 245, including those in filing indicators can, of course, impede access, and must be addressed. Due to the quality of records from these sources, R2 believes they should be accepted 'as is' and time spent reviewing the records could be used on other tasks.

Errors should be fixed as found, but the Library should take less time looking for them. We suggest that UHM explicitly confine review of 050 and 090 copy to the following fields, as they are universally considered to affect user access:

- 100/600/700s: correct spelling of all personal and corporate names
- 250: edition statement matches that on the item
- 245: title on copy matches title page
- 260: year of publication on copy matches year on item

Eliminate review of other access points on PCC and DLC records. Focus exclusively on the question "does this impede access?" when considering errors. The idea that the OPAC is not perfect sometimes rankles, but in point of fact it will never be perfect, no matter how much effort is expended. Seeking to improve that last 2-3% absorbs much time that can and should be used more productively.



In the end, moving away from item-by-item quality control toward sampling is a crucial element of cost-effective cataloging. Everyone in the library must recognize that cataloging errors are a fact of life. Regardless of the procedures used, it is impossible to buy or to produce 100% error-free records as cataloging is a complex task performed by humans. Recognize, accept, and communicate this level of accuracy. Knowing and reporting your error rate is actually the best way to inspire confidence in the service. When errors are found in the OPAC, they should be fixed as quickly as possible. This approach is much more cost effective, and will help shift staff time away from mainstream monographs to other activities that need attention.

Reduce or eliminate monographs binding for BBS material

While we recognize that environmental conditions are more challenging in Hawaii than in other locales, we suggest reconsideration of the monographs binding policy. If UHM circulation statistics mirror those of other academic libraries, at least 50% of the circulating collection has never been used. Of those titles that have circulated, most have done so no more than two or three times. We suggest that, for its general collections, UHM cease binding upon receipt, and adopt a practice of binding upon return from first use, or as needed. This would allow new softcover books to proceed directly to the shelves, without going to Preservation for evaluation. In addition to saving some binding money, the more compelling reason is to eliminate delays in availability to the patron.

Implement Web-based request form or non-BBS materials

Our discussion of monographs has of necessity focused on the 10,000+ titles obtained through Blackwell each year. Moving to electronic selection for those titles, and perhaps some others from HARRASSOWITZ and Bennett, will improve both control and fulfillment time. But the remaining 8,000+ firm orders could also benefit from elimination of paper worksheets. R2 suggests that UHM consider developing a Web form for requesting orders for titles outside the BBS mainstream. This would assure consistent information coming in to Acquisitions, and would also allow selectors to submit all of their requests electronically. Once orders have been filled (or claimed) for the existing bin of paper worksheets, those bins should be removed.

Consider purchase-on-demand for some current material

As the materials budget comes under more pressure, and space becomes more of an issue, UHM might consider a different approach to some of its mainstream material. At the University of Vermont last year, Collection Development conducted an experiment with "on demand" purchase of print books. For five large publishers (including Oxford and Wiley), the library loaded MARC records in accordance with their approval profiles, but did not buy the books. Instead, if a user discovered a title in the OPAC, the library purchased the title on a rush basis, working with their vendor to guarantee delivery within 3 days. Over the course of the year, the library saved \$150,000 and a significant amount of shelf space. Other libraries have done something similar with eBooks from EBL, which offers a short-term circulation option, and immediate fulfillment.



IV. Serials and Electronic Resources

Perhaps nothing conveys the shift from print to electronic in serials at UHM better than financial statistics. In FY07, it was reported that the Library spent \$1.9M on print serials and \$3.4M on electronic serials (and eBook packages). As annual reports were apparently not produced by any department for FY08 and FY09, R2 does not have more up-to-date data, but it is likely that the expenditures on electronic resources has only grown due to the recent project to transfer journal formats. Despite this, the majority of the Library's Serials staff is focused on print resources, dutifully pursuing traditional tasks like check-in, claiming, binding, and so forth. While these tasks are important and add value, we suggest with the following recommendations that the Library needs to weigh the value added by these traditional tasks with the opportunity to add value by instead moving more hours into managing electronic resources, digital projects, and special collections. In our view, there is room to maneuver at UHM – some traditional tasks can be reduced or given up entirely in order to focus staff on other activities that would add more value to patrons. Again, this is not to say that traditional tasks are unimportant, but that they must be weighed in light of opportunity cost and should not be prioritized simply because 'it has always been that way'.

All of this said, the Library has done a remarkably good job managing electronic resources given its limited staffing. The Gateway Database, a locally created ERMS and knowledgebase, is surprisingly effective and there is not a backlog of known link/access issues. The Library is utilizing Serials Solutions for holdings updates, which has undoubtedly helped staff keep up with the workload. The Library has also embarked on several other efforts to bring a wider range of electronic resources to patrons. ScholarShare, the Library's institutional repository, has been a success by any measure with more demand by academic departments than there is staff to ingest materials. In Sinclair, a wide range of digital projects have been undertaken including a huge collection of oral history cassettes, video tape conversions, music digitization, and off-air broadcast recordings. These (and other projects not listed) are all focused on making unique materials available to scholars locally, nationally, and internationally. We think there is enormous value in pursuing these projects and that hours freed from the following recommendations should be diverted to these areas and the management of mainstream electronic resources.

Streamline electronic resource management

Like most libraries, UMH is not purchasing a large number of new electronic resources due to budget constraints. Nonetheless, the processes for acquiring new electronic resources has been tested due to the large number of journals that were moved from print to electronic over the last three fiscal years. In addition, there are a small number of new electronic resources added each year, either through modest increases in certain collections or money freed up as the result of the cancellation of other items. As it was reported to R2 from various groups, the process of acquiring and managing electronic resources at UHM is generally working well. In addition, the maintenance of existing resources was reported to be generally up-to-date, which is more than many libraries can say at this time.

As R2 understands it, selection decisions for electronic resources take place through the CDMC for larger packages or through individual selectors for smaller packages. Like monographs, a worksheet form is filled out by the selector and forwarded to Serial Acquisitions and the Electronic Resources Librarian. The vendor is then contacted by the Electronic Resources Librarian, who goes over required order information including the license agreement. If the license is under \$25k, the Library Fiscal Officer can sign it. If the license is over \$25k it must go to the University level for approval, which can take several additional weeks to obtain approval. Once approved, the license is sent to the vendor to enable access to the resource.



The original worksheet and invoices go to LTS who create PO in Voyager. After checking that the resource is indeed working, a record is added to the Gateway Database. A script is then run in the Gateway Database that makes the title available online. If the resource is considered 'stable', a record is then added to Voyager by Cataloging. These resources are also added to a linking spreadsheet that is used by Serials staff to link the record in Voyager to the holding information in the Gateway Database. If the resource is considered 'unstable' (changes occur frequently), it is not added to Voyager, but is instead added to Serials Solutions, who send monthly holding updates to the Library, which are loaded into the Gateway Database.

Although the UHM's electronic resource management systems do not rigidly follow the traditional boundaries found in other libraries, the infrastructure and processes appear effective and we do not see the need for large scale changes. That said, we do have several suggestions for streamlining the process that include consolidation among systems and services, as well as moving forward with a suggested solution for license management.

Conduct a ER access/gateway audit

Prior to implementing several of the following recommendations, we suggest that the Library first analyze the access paths/gateways used by patrons to access electronic resources. Of the locally managed/stable resources contained in both the Gateway Database and the OPAC, how many patrons actually use Voyager to access electronic materials? Further, how many patrons utilize the A-to-Z and search interface generated by the Gateway Database versus the one generated by Serials Solutions? What other access paths are used, such as Google Scholar, Google Book Search, abstracts and indexes, and so forth. The answers to each of these questions will greatly inform the following recommendations and help the Library make decisions on where to focus its efforts and limited resources.

Maximize use of Serial Solutions for e-resource maintenance

While complete consolidation with Serials Solutions is not possible at this time, we recommend that UHM review its list of locally managed resources and transfer as many as possible to the 360 Core service. For instance, it is R2's understanding that Project Muse can be managed by Serials Solutions and at this time UHM is managing it locally. The objective should be to offload and outsource as much local maintenance as possible. In turn, this will free some staff time to pursue activities that cannot be outsourced such as acquisition activity, access troubleshooting, usage analysis, and so forth.

Maintain the Gateway Database as the Library's ERMS

Admittedly, R2 is normally skeptical when we hear that a locally created Access database is being used in place of a commercial solution. In our experience, Access databases are typically localized instances whose information is not shared or accessible by others. However, the Gateway Database is a clear exception as it has been enhanced with PHP to update the Library's website with the latest holding information for journals, databases, and eBooks. The PHP scripts have essentially allowed the Gateway database to operate as both an ERMS and ER knowledgebase for the Library.



Per our previous recommendation, we believe that Serials Solutions should be utilized as the Library's e-resource knowledgebase as much as is possible. However, databases and other e-resources not supported by Serial Solutions will still need to be maintained in the Gateway Database. In many libraries R2 has seen tools similar to the Gateway database used to manage resources not supported by Serials Solutions, though they are usually maintained separately, ultimately requiring patrons to search for databases and journals separately – an inconvenience that UHM has avoided.

In addition, the Library had previously evaluated commercial ERMS solutions and came to the conclusion that the Gateway Database has comparable functionality with the exception of license management. The reality is that commercial ERMS systems have received very mixed reviews in the library community and we support the Library's decision to continue to utilize the Gateway Database as the Library's ERMS at this time.

That said, we believe that it is important the Gateway DB be fully utilized to manage each stage of the acquisition process and that read-only access (or on-demand reports) be available to others in the Library so that they have improved visibility prior to activation of any one resource (e.g. a selector should be able to see that a resource is waiting on license review without having to call Serials). This may require some development, though we suspect it would not be too difficult to achieve given the Gateway DB's underlying technology. As commercial ERMS products continue to improve, the Library should reassess whether the Gateway Database is still the best option for the management of electronic resources.

Purchase Swets' e-Resource Manager service

Many of the Library's license agreements have been missing since the flood and this information has still not been reconstructed. In addition, the Library still does not have an effective online storage and management solution for e-resource licenses. While the Gateway Database performs most of the tasks of a commercial ERMS, it does not have any license management capabilities. To supplement the Gateway Database, the Library has investigated purchasing Swets' 'eSource Manager', an online system that helps libraries manage both Swets and non-Swets licenses. The system is equipped with an impressive array of features including auto population of licenses, automatic updates of publisher changes, and the ability to quickly customize agreements.

Though R2 does not have direct experience with this service, it appears to exceed the license management functionality of commercial ERMS systems, though it is unclear how or if information can be used for public display in the OPAC (this has limited value in our view). If the Library can afford the subscription price, we believe that this system would be a wise investment as it would likely be a very effective compliment to the Gateway Database. In the event that the Library cannot afford the subscription, we recommend that at least minimal license management functionality be added to the Gateway Database (e.g. scanned licenses attached to the appropriate resource record).

Stop maintaining electronic resource records in the OPAC

If the Library conducts the previously recommended ER access/gateway audit, we suspect that the number of patrons accessing electronic resources through the A-to-Z lists and link resolver will greatly eclipse those using the OPAC. In our view, the OPAC is of limited value for discovering electronic resources as the records contained there are at the title level rather than the article level – links have to be established to the



Gateway Database to get holdings information. In addition, UHM only has about 15 percent of its electronic resources (the 'locally managed' titles) represented in the OPAC, whereas the other 85 percent are only discoverable through the Gateway Database, the A-to-Z list and/or the link resolver. At this point, we think there is limited value continuing to maintain 'locally managed' resources in the OPAC and this practice should be discontinued.

If a majority of users find e-journal articles via a link resolver or an A-Z list, it's critical that those links are updated and monitored regularly. This will be even more important if UHM adopts this recommendation and forgoes cataloging records for e-journals. In a sense, we are suggesting that the Library deliberately reduce its workload and improve service to users by choosing a sustainable strategy for discovery and management of e-resources. In other words, offer one or two fewer options, but deliver exceptional service via the avenues clearly preferred by most users.

Choose one A-to-Z list for public display

On the Library's homepage, links to two A-to-Z lists and search fields are displayed. The 'E-Resources & Databases' link is generated by the Gateway Database and contains all of the Library's electronic resources. The 'Electronic Journals and Books' link is generated by Serials Solutions and does not contain locally managed resources. It was reported that some patrons prefer the Serials Solutions version because it has a cleaner appearance than the Gateway version. As part of a ER access/gateway audit, we think it would be interesting to see the usage patterns of each A-to-Z list. In our view, displaying two lists has several downsides because it could be confusing to patrons, it takes up real estate on the homepage, and it could potentially lead to additional troubleshooting and maintenance.

While usage patterns would greatly inform this recommendation, we suggest that the Library move to only one A-to-Z list for the aforementioned reasons. As the Gateway list/search page contains all resources in the Library, it would make sense to consolidate with this instance. Once removed, the Library may wish to use the real estate to add a link to Google Scholar, which is a resource many patrons use heavily to find resources at their library. Other research libraries, like UNC Chapel Hill [[link](#)], have recognized this and emphasized Google Scholar on their homepage.

Consider a wiki or blog for e-resources trouble-shooting

A library can do everything right and still have to contend with a large number of e-resource access issues that are beyond their control. In most libraries, once an e-resource issue has been submitted for resolution, patrons or others constituents not involved with resolving the issue do not have any indication that progress is being made to remedy the situation. Particularly in situations where resolving an access issue will take some time, constituents can become quite frustrated with the apparent lack of progress. One interactive, 2.0-style tool we have seen deployed to add visibility to address these situations was developed by the Auraria Library (serving the University of Colorado, Denver). They have developed a blog using the free Blogger service from Google. It is monitored by three staff members, one each from E-Resources, Systems, and Distance Education. They have dubbed it the "aur problem" blog, and it is well worth a look: <http://aurproblem.blogspot.com/> .

As selectors at UHM are often the first point of contact for faculty who find broken links, access issues, or other problems with electronic resources, being able to point to a public wiki



or blog that visually demonstrates the Library is actively pursuing the issue would build confidence in the Library's service.

Clarify and emphasize the error reporting link for e-resources

When accessing an electronic resource, users have the option to "Contact the Electronic Resources Librarian" in the upper right corner of the page. Presumably, the primary purpose of this link is to report an access problem of some kind with the electronic resource. We suggest that the Library change the wording on the link to something more intuitive to a patron such as "Report a Problem". Also, making the link more prominent would probably be helpful as it tends to blend in with its current styling. R2 was recently visiting another ARL library that added a similar reporting feature to their electronic resource pages and they received an unexpectedly high number of reports. Despite the fact this increased the ER troubleshooting workload, it was rightly considered a 'good' response as each undetected and/or unresolved access problem essentially equates to money wasted on the part of the Library. We suspect some small changes to UHM's reporting link would increase utilization at the Library.

Adopt link checking software

Links to both paid and unpaid electronic resources are frustratingly dynamic and often change without notice. Ideally, holding maintenance services such as Serials Solutions will quickly update links, but this does not always happen as expediently as is desired for all resources. In addition, while links may resolve correctly, access can sometimes go away without notification, often due to errors or misunderstandings on the part of publishers. This must also be monitored. Of course, links and access problems that aren't discovered by staff will eventually be discovered by patrons. There is no guarantee that patrons will report these problems to the Library, but it is guaranteed that they will be frustrated by not being able to access the resource needed for their research.

Based on the volume of links that must be checked, it seems unlikely that staff will be able to manually monitor links on an ongoing basis without automated tools. Therefore, the Library should immediately research various linking checking programs. There is no shortage of link checkers on the market, but it is important that any option selected reviews links on several levels including 1) Broken links [404 errors], 2) network time-outs [408 errors], and 3) authentication failures [password or IP authentication issue]. Many link checkers only look for broken links (as they assume a webmaster is trying to find problems on his/her own site).

While the Library is evaluating its options for link checking software, we suggest that Openly Informatics 'Link Evaluator' be used. It is a free extension to Firefox that identifies broken links, time-outs, authentication failures, and incorrect content for the given URL. It essentially works by activating each link, evaluating it, and color coding it based on its findings. It is a quick way to ID problem link on any given page and would be significantly faster than manual evaluation. Once a link problem is found it should be logged, possibly on a troubleshooting blog or wiki (recommended earlier), and referred to the ER Librarian for resolution.

Continue to advocate for e-Only theses and dissertations; reduce cataloging effort

Staff in the Hawaii Pacific Collection receive several hundred theses and dissertations from the Graduate School each year. These are routed to Cataloging Support who sort them in batches and add a brief record, including LC subjects. Some name authority work is also conducted. As R2 understands it, a print copy is kept in the Hawaii Pacific Collection, an electronic copy is sent to ProQuest, and an electronic copy is sent to the ScholarShare. A sizable backlog of theses and dissertations has built up in cataloging.



At many Universities, the level descriptive cataloging committed to theses and dissertations is being questioned. Particularly for unpublished theses and dissertations, we recommend dropping name authority work and moving from full MARC records to an appropriate non-MARC metadata format (e.g. Dublin Core). The Library should also evaluate whether LC subjects are really necessary, or whether less structured key words would suffice. While a carefully structured MARC record, with full name authority control and LC subjects would be nice, we believe that the focus should be addressing this stream of material with faster, less rigorous description in order to clear the existing backlog and then move cataloging and processing efforts to other tasks that will have a greater impact on patrons.

R2 has seen many instances where dissertations put in an institutional repository with non-MARC metadata suddenly started circulating heavily online whereas the physical copy spent the previous five years gathering dust on a shelf despite having a meticulous MARC record in the OPAC. The advent of IRs have changed the rules for these and dissertations and cataloging policies and practices need to change to reflect this reality. In this spirit, we also encourage the Library to continue working with the Graduate School to advocate for e-only theses and dissertations on campus. We understand that the Dean of the Graduate School is quite open to moving in this direction, but realizing such a goal will require a long and drawn out approval process from others on campus. Once such an agreement is reached, the Library can simply require electronic submission to ProQuest and ScholarShare by the student. This may actually be a welcome change for all. The digital copy should be accepted by the library as its archival copy

Develop a sustainable web archiving solution

The Hawaii Pacific Collection takes a comprehensive approach to collecting information of value, including websites from various governments in areas of geographic interest. Many of web pages originating from various Pacific island nations are inherently unstable and information of interest to scholars can come and go quickly. At this time, UHM's archiving of these websites is entirely manual, which is both labor intensive and time consuming. In addition, manually archiving websites is extremely difficult and likely leads to some important information being missed entirely. Recognizing the lack of scalability in the current approach, the Library is wisely working with the State Library to produce a more sustainable solution.

Several organizations have attempted to take very comprehensive approaches to web archiving. One of the best known is the Internet Archive, whose 'Way Back Machine' contains over 150 billion web pages archived since 1996. However, even with volume the Way Back Machine still does not cover every website in a comprehensive manner. As a case in point, the Way Back Machine's coverage of Fiji's government website is quite sparse. Only the home page displays and almost all of the underlying links were not archived – essentially leaving only a table of contents for scholars. Rather than relying on the Way Back Machine, other academic libraries have worked with the Internet Archive to leverage their technology to create more focused and comprehensive archiving solutions for selected sites.

An excellent example of just such a program is the California Digital Library's [CDL] Web Archive Service [[link](#) ; WAS]. This service was developed by CDL using open source software provided by the Internet Archive, is hosted at CDL, and was funded by the National Digital Information Infrastructure and Preservation Program. R2 suggests that UHM work with the State Archives to develop a similar approach. It is likely that the CDL would be willing to share their approach with UHM (and possibly some software), saving a considerable amount of time and effort.



Rebalance and reduce check-in

Although the number of serial issues checked in has fluctuated, it trended significantly downward between FY02 and FY07 – dropping from 95,148 issues to 74,146 respectively. While R2 does not have information on the growth of electronic resources during the same timeframe, we do know that in FY07 6,974 journals and 123 databases were under management by the Library and that a program to transfer as many print journals to electronic was launched in that fiscal year. This resulted in 650 print titles being transferred in FY07 alone. After additional transfers in FY08 and FY09, we understand that staff feel that all print journals that could be converted have been. We commend this effort and encourage the Library to continually review print journals and move them to an electronic equivalent whenever possible. Not only is electronic the preferred format in most subject areas, but moving to electronic will reduce check-in, claiming, binding, and other related tasks.

Naturally, the reduction in print journals has impacted the check-in task in the Library. At this time, R2 understands that all serial titles are checked in except the CAPSEA/CAPSA hardcover issues. Check-in is divided between three teams, each responsible for a certain portion of the alphabet. There is some concern among the teams that the balance among the teams is no longer equitable due to the transfer of many print issues to electronic. While we believe that the distribution of the check-in load between the teams should be evaluated, we first think the Library needs to reconsider its entire approach to this task.

While the check-in process can uncover errors and problems with subscriptions, many libraries have begun to question whether the time involved could be spent on higher-yield activities. They have begun to forgo check-in of some materials, such as weekly newsmagazines, and other high-frequency, low-price titles—especially if they will subsequently be held electronically or in microfilm. R2 suggests that UHM review its print subscriptions with this idea in mind. Librarians at the University of Nevada, among others, contend that check-in of print periodicals can be suspended almost entirely without undue impact on the patron [See: Anderson, R. and Zink, S. "Implementing the unthinkable; the demise of periodical check-in at the University of Nevada", *Library Collections, Acquisitions, & Technical Services* 27 (2003): 61-71 for a compelling description]. The hours saved could be redirected toward higher-demand e-resources, or any number of other activities that would have a meaningful impact on the Library's service level to patrons. Titles that are not checked in cannot be routinely claimed and only those issues not found by patrons would surface as problems. Thus, this recommendation would have the effect of also reducing claiming activity, freeing still more hours.

While many libraries find this approach difficult to accept in its entirety, most can realize benefits from a more limited application of it, choosing to reduce check-in on certain materials such as newspapers, weekly newsmagazines, titles available electronically, and/or those that will not be bound. Even such a conservative approach would reduce check-in significantly, since it focuses on the highest-frequency titles. Differentiating between items to be checked in versus those that should no longer be checked in can be accomplished by modifying the address label to indicate 'no check-in'.

After the Library has decided how much it will reduce check-in, then the workload rebalancing between the teams should be commenced. Between the reduction in print serials and a reduction in check-in, the overall task workload for this function should rapidly dwindle over the next several years.



Stop redundant check-in of journals in Sinclair

Sinclair's print journals are checked in at Hamilton and then sent down to Sinclair for shelving. However, prior to going to the shelf, the journals are checked-in again on a CARD-X in Sinclair. When Sinclair finds that an issue is missing, staff in Hamilton are asked to place a claim. This redundancy is deemed necessary because claiming is behind in Hamilton. Once Hamilton moves to electronic claiming and streamlines these processes (and also reduces the workload by no longer checking in certain titles) we suggest that this redundant check-in in Sinclair be discontinued. Missing issues should be identified and claimed in Hamilton.

Standardize routing and handling of print journals

In many instances check-in at UHM is complicated by copious long notes in Voyager, which are sometimes repeated in the Bib, MFHD, and check-in grid. The purpose of these notes is to enhance check-in, but the actual effect is creating a large number of exceptions in a stream that should be almost completely standardized. R2's understanding is that the greatest number of routing exceptions are in non-Swets titles. Instructions vary by various collections, selectors, and teams. This level of complexity needs to be removed and the check-in processed significantly streamlined. The Serials Department must take the lead in developing standard procedures for check-in. While some exceptions may be warranted, the 'burden of proof' should be placed on the collection or selector making the request. The end result should be a standard procedure for check-in and routing for over 95% of print journals in the Library, eliminating the need to read complex notes for what should be a simple task.

Standardize claiming procedures; utilize electronic claiming

Claiming is a labor intensive process, particularly if a Library maintains a sizable print collection and/or orders from foreign publishers as is the case at UHM. Like check-in, claiming is divided among teams alphabetically. For the most part, claiming at the Library is a manual process – reports are manually generated and claims are sent to vendors in paper form. As R2 understands it, claiming has more or less fallen by the wayside and backlogs have developed.

Unfortunately, Voyager's claiming functionality is not particularly developed and, to our knowledge, there are not automatic alerts to help detect lapses. However, there are three strategies that we think the Library could pursue to get back on top of the claiming backlog. The first two are recommendations already provided by R2: 1) Continuing to move print to electronic will reduce claiming and 2) reducing check-in, particularly on high volume, popular press titles, will reduce the workload. The third strategy we recommend is moving to electronic claiming. Particularly for Swets titles, electronic claiming functionality through Swetswise is quite developed. The systems automatically provides information about whether an issues has been published allowing a library to quickly determine if a claim is necessary. If so, a claim can be submitted electronically through the system. All outstanding claims can be monitored on an ongoing basis where responses and actions can be reviewed. Not only would electronic claiming be faster than sending paper through the mail, but the overall management and tracking would be vastly improved and automated. For titles that are not purchased through Swets, we suggest moving to email claiming wherever possible. While tracking will still be manual, the claims will arrive with the publisher/vendor much faster. In addition, there will be an electronic record (sent email) of the claim that can be reviewed and resent if a response is not received.



Immediately discard unsolicited issues

Based on R2's interviews, a great many journal issues arrive that are not in the database, and presumably have not be requested or purchased by the Library. In some cases, an issue that does not show up in the database may be the result of a title change. In most cases, the issues are 'freebies' offered by an agent or publishers in hopes of gaining a new subscription from the Library. R2 understands that all issues are passed on from receivers to others for consideration. Given the goal of reducing print subscriptions, this seems counter-productive. Most selectors probably already have a wish list of titles wanted and a clear preference for electronic resources. These unsolicited issues are advertising by the publisher and the likelihood of one being adopted is small. In our view, it would be preferable to minimize the time and effort expended on these by eliminating them upon arrival.

Although this process may not require enormous amounts of time, it is time that could be used in other ways, and more importantly, elimination of these tasks helps reinforce the idea of shifting effort away from print.

Reduce binding of print journals

UHM has a relatively aggressive serials binding policy where all journals are bound. With the exception of Hawaii Pacific, newspapers are not bound. Prior to the most recent budget crisis, the Library sent 600 volumes to the bindery every two weeks. This has now been reduced to 400 volumes every two weeks. Despite the fact that this reduction in binding was involuntary, we suggest that it is a move in the right direction nonetheless. The availability of electronic serials, for both current materials as well as backruns, has changed the preservation dynamic for libraries, reducing the necessity of wide scale binding. In many libraries, bound journals that are now available in a trusted repository like JSTOR, Project Muse, or Portico are being moved offsite or discarded entirely. In these cases, all of the bindery expense and staff time that went into binding those journals was essentially thrown away as well. Due to this, many are questioning whether it still makes sense to bind print journals, as it is likely that the effort and expense will eventually be for naught.

R2 believes that UHM should consider its current binding policies in a similar manner. Not only is there a direct cost to binding, but staff have to spend time managing pull slips, locating serials, entering information into Voyager to generate bindery slips, and updating each item record manually. After the bound volume returns, spine labels must be generated and affixed prior to shelving. It's R2's belief that when staff time is considered, UHM's binding expense is likely quite significant.

Instead of binding everything, R2 recommends that the Library limit binding to those journals for which it owns an historic or complete run and those titles contained in special collections. All other titles should remain unbound; perhaps stored in boxes. Once the content is available electronically in a trusted repository, unbound issues can and should be discarded.

Inventory and prioritize print serials without records

It was reported that there are a large number of serials in the stacks that do not have a record in Voyager. While no one knows how many serials are uncataloged, the majority are in the Asia and Hawaii Pacific collections. The Library currently has many competing priorities and fully cataloging these resources in the immediate future may not necessarily be realistic. But we do believe that it would be worth the Library's time to identify the titles not currently cataloged so that the scope of a future retrospective cataloging project can be defined and so that high-level finding aids can be created and made available to scholars in the meantime. Of course, the nature of the collection will require that whoever takes on the project have



some language skills. We suggest that initial searching be conducted by student workers with language skills and that finding aids be created by staff.



V. Resource Description

Of all the areas now changing within academic libraries, resource discovery is among the most interesting and exciting. The Web 2.0/Library 2.0 paradigm of user-enabled self-service at the network level has already had significant impact on design and implementation of library services. Content available in digital form includes not only Web sites and commercial electronic resources, but digital libraries, institutional repositories, data sets, geographical information, etc. While the role of the library in this matrix is still evolving, it has the potential to be an important one, bringing together the disciplines of resource description, automation support, and interaction with users.

However, UHM is currently struggling with significant cataloging backlogs that, combined with the regular inflow of new materials, have fully consumed the group. To break the existing backlogs, keep up with new incoming materials, and begin to explore new innovations in patron discovery, we believe that the Library will need to make several fundamental changes to its approach to resource discovery. In one sense, a philosophical shift must be made. A better balance between perceived quality and expediency needs to be struck in order to free time to address backlogs and, eventually, unique resources and hidden collections. Ultimately, cataloging staff must come to accept that the perfect record isn't perfect if it takes too long to create. Additional acceptance of third party records, reduced scrutiny of records, and new approaches such as non-MARC metadata will all need to be adopted in order to break UHM's existing backlogs and simultaneously pursue some of the next generation discovery technologies that have greatly enhanced the research process at other libraries.

Establish a policy for separate records by format

UHM currently has a single record policy where all formats of the same title are consolidated on a single cataloging record. Many argue that this approach enhances discovery because a user can see all format options from a single record. In addition, a single record can save time in workflows that emphasize (or require) an item-by-item approach to cataloging because a separate record does not have to be manually created for each variation of the same title. Also, some catalogers feel that the single record approach is more appealing aesthetically, creating a cleaner, more organized approach to resource description.

While the reasons a library pursues a single record policy have merit, in R2's view, the efficiencies that can be achieved through a multiple record policy (separate records for each format) cannot be ignored. The nature of cataloging has changed dramatically over the last ten years. Instead of an item-by-item approach to resource description, bulk loading of records from various sources (vendors, OCLC, publishers, etc) has allowed libraries to save an enormous amount of time describing resources. Ultimately, bulk loading has allowed many libraries to avoid backlogs despite limited staff, yet have records that are perfectly adequate for patron discovery (even if they are not as pristine as a record hand crafted by a professional cataloger). The catch is that single record policies are generally not compatible with bulk loading approach because they require that new formats be manually merged onto appropriate records. With a multiple record approach, a library can simply bulk load separate records for each title into the system and they don't have to worry about merging formats.

In R2's experience, the majority of academic libraries are now creating separate records for print and electronic versions. We recommend that UHM do the same, at least for the Library's general collections. The advent of 'next generation' discovery interfaces largely negates the discovery advantages of single record policies and addresses aesthetic concerns to some extent. In some cases, multiple records will have to be manually created for various formats of the same title, but the time saved by adopting bulk loading will greatly exceed the



downside here. The bottom line is that a multiple record policy will help address backlogs without seriously impacting patron discovery – a tradeoff that we think is well worth making.

Make backlog rush requests more intuitive for patrons

Whenever a backlog exists in technical services (Cataloging or another department), the patron rush process needs to be closely monitored for effectiveness. UHM does support a rush service for backlogged materials. When a user finds an 'in process' title in the catalog staff working at any service point are trained to instruct them to place a request at the Circulation Desk and to expect the item to be ready for pickup within 24 hours. There is also an FAQ in the OPAC describing the process, but it is reportedly easy to miss. As the FAQ is difficult to find, many in the Library are concerned that most patrons are unaware that rush processing is an option.

Of course, the most effective means to negate this problem will be elimination of backlogs in Technical Services. In the meantime, we suggest that the Library add a 'rush processing' button to the OPAC display for all titles with an 'in process' designation. This should lead to an online form that is auto populated with the titles bibliographic information where the patron can enter their request. Not only will this approach make it much more obvious that a processing rush requests can be made, but the it will also be significantly more convenient than having to physically go to the Circulation Desk to enter a request.

Utilize OCLC Bib Notification or Backstage Marcadia for non-CJK backlog

The current cataloging backlog contains 6,882 non-CJK titles awaiting original cataloging. While these titles do not have call numbers or subjects, they do have preliminary records that were created by CATSS. To accelerate clearing this backlog, we suggest that original catalogers focus *solely* on creating a call number and one or two subjects for each title. After this has been completed, these books should go directly to the shelf and the Library should utilize a record notification service such as OCLC's Bibliographic Record Notification service (<http://www.oclc.org/bibnote/default.htm>) or Backstage's Marcadia (<http://www.bslw.com/marcadia.html>), both of which automatically update brief or incomplete records with full records when they become available. These services are used by other large research libraries including the University of Chicago and Stanford University.

The advantage to this approach is that the backlog will be more expediently eliminated, making a large number of titles readily available in the general collection. The downside is that full records may not become available for some titles for a long time, if ever (thus the service won't automatically update these titles). To mitigate the downside, the Library could identify those titles not updated after a certain period of time (e.g. 24 months) and manually add a full record. However, some libraries that use these services make no attempt to go back to the title once it has gone to the shelf. They essentially accept that some titles will be in the general collection with a brief record in perpetuity. At least until all cataloging backlogs have been eliminated, we suggest that UHM forgo updating records manually.

Another possibility here is using Bib Notification or Marcadia to automatically update the brief records created during the 'Rapid' cataloging project. It's R2's understanding that a large number of records were created with this project and manually updating would be a considerable effort. An automated record notification service may be the Library's most realistic opportunity to update these records.



Adopt a Sampling Approach to Quality Control

There are varying amounts of rework being done in the various collections, much of which should be unnecessary, but which is justified by way of anecdotal evidence of errors found. For example, new titles that arrive at Sinclair are checked-out (falsely circulated once) to indicate that the piece has actually arrived.

To counteract this, R2 recommends a more formal quality review process in Hamilton. As in commercial manufacturing, it is important for the producer to evaluate the "product" on a routine basis. Any process of quality control assumes some level of standardization, which we suggest will benefit the entire organization in many ways. There are four other critical assumptions that must be made when embarking on a quality control program.

1. Errors will occur
2. Errors should be identified and analyzed via a **sampling** approach
3. Some percentage (1-3%) of error is acceptable
4. Perfection is not the goal

We suggest that the entire community agree on a standard product definition for each format regardless of location. This definition should include acceptable copy, item and holdings maintenance, and appropriate binding, marking, book plating, theft detection, and spine labeling. A formal quality review can then be established.

By reporting a percentage of errors found each week, you will normalize the concept that errors exist, you will minimize blame, and you will inspire increased trust and confidence in the Technical Services product. By participating in the process of product definition and by agreeing to the concept of 'good enough' Technical Services' 'customers' should be naturally inclined and formally encouraged to eliminate their own quality checks and consequent rework.

The concept of sampling may be unfamiliar and establishing an appropriate sampling routine will likely require the concerted effort of an interdepartmental team. The advantage of a sampling routine is intended to eliminate 100% review of anything. Important elements include:

1. Specific definition of the product in terms of minimum requirements
2. Decide on a convenient way to identify random samples (5%)
3. Sample and evaluate in-house and third party (vendor) products according to the same requirements
4. Limit evaluation to critical details
5. Record the types and the number of errors found
6. Correct errors at the sampling station
7. Ensure that the % of errors does not exceed the acceptable %
8. When patterns emerge, retrain staff and/or confront the vendor
9. If the error rate exceeds the acceptable level, revert to 100% review/correction and retrain.
10. Publicize the error free % as an indicator of overall quality

Utilize vendor records for Korean and Japanese materials

The backlogs for both Korean and Japanese materials are growing and, under the current circumstances, R2 can see no reason that these backlogs will be brought under control in the foreseeable future. Chinese materials do not have a backlog, though some speculate that this



is largely because a historical backlog was washed away in the 2004 flood. Already, half of the Library's professional cataloging staff is dedicated to CJK, something that is questionable in our view when the relative use of each collection is taken into consideration. Rather than seeing more cataloging time invested in CJK, we believe that it would be more equitable if the dedicated CJK catalogers actually spent more of their time on non-CJK collections, first addressing backlogs in very high use collections. This is not to say that the CJK collections at UHM are not valuable, but that the Library needs to take an objective view in the allocation of cataloging resources in order to more aggressively address backlogs in the collections most heavily used by the majority of patrons.

Under any circumstance, it is unlikely that more resources will be dedicated to the backlogs in the Asia collection – and entirely possible less time will be available. Therefore, we suggest that the Library pursue a triage approach to cataloging this collection and heavily utilize vendor records, make use of brief records, and contract with outside cataloging services like OCLC's TechPro. For both Japanese and Chinese materials ordered from vendors, records are commonly available. These should be purchased and utilized with little scrutiny by Cataloging. Quality control checks should be exclusively limited to fields that directly impact access. For the Japanese backlog, preliminary records should be created in Voyager and uploaded to OCLC as a minimal-level record. While some catalogers do not feel comfortable uploading anything but full records to OCLC, we believe that accessibility of the Library's resources must be emphasized over such convention. In the past the Library has attempted to procure grants to pay for TechPro processing for some of the Japanese backlog. Though these attempts were unsuccessful, we encourage the Library to continue this course of action for both Japanese and Korean materials.

While we recognize that this will be a very controversial suggestion, we believe that the Library should also consider temporarily using a portion of the Japanese and Korean collection budgets, even though they are already quite limited, to pay for vendor records and TechPro processing for new and backlogged materials. We submit that the Library cannot truly afford to purchase new materials if they cannot be adequately described and made available to patrons. The emphasis in the Asia collection, in our view, must be placed on making owned materials accessible as opposed to building a collection that continually outstrips the Library's ability to process it.

Establish rules around non-book, Non-English Language materials

In many cases non-English language A/V material comes with subtitles in one language and audio in another language. In these cases, it normally takes two language specialists to catalog the title, but it is not clear at UHM which language specialist is ultimately responsible for the title. In these cases, the Library needs to establish rules up-front about who is responsible for A/V material with more than one language involved. For instance, if the audio is in Japanese, the Japanese cataloging team should 'own' the title, even if subtitles are in Mandarin (or if the title was distributed by a Chinese firm, etc).

Standardize cataloging and processing policies among collections

Particularly in an environment where collections and branches have strong individual identities, centralized technical service operations are often asked to customize cataloging and processing based on the item's location. Among the various UHM collections and Sinclair, there are numerous examples of this occurring at UHM. Collection-based customization is enormously inefficient and ultimately undermines Technical Services' ability to create a mainstream for processing material. With the sole exception of the Hawaii Pacific Special



Collection, the approach to cataloging, marking, and other related processing should be standardized for all formats.

In many cases we suspect that individual collections do not realize that processing for their materials differs from other areas in the Library. For instance, Asia uses different CD cases for their A/V than any other collection in the Library. Other examples include holdings taking *longer* than cataloging because of variations required by various collections and check-in of print journals being made more difficult due to exceedingly long notes with special instructions on how to handle certain issues. While only a small sample, each of these examples are indicative of an environment where standardization and efficiency are thwarted by the accommodation of exceptions. Going forward, Technical Services needs to meet with representatives from each of the collections and Sinclair to develop a single approach to cataloging and processing. Exceptions should only be made for extraordinary circumstances, which should not include personal preferences, aesthetics, or continuity in a given collection.

R2 understands that the Cataloging has a history of accommodating exceptions. Examples such as performing analytics on series not previously handled that way and creating a cataloging record for a single article were cited to R2 while onsite. While we understand Cataloging is attempting to be flexible, and we commend the intent, continually allowing exceptions is ultimately self defeating as it pulls staff away from batch oriented processes to item-by-item work. This impacts the ability to quickly process materials and hampers efforts to clear backlogs. Therefore, requests for exceptions to policies need to be routed through a single point (e.g. the Head of Cataloging) and they should be evaluated under strict guidelines. Only the most extraordinary exceptions should be accommodated. Again, in our view, Special Collections should be an exception to this policy. In designating Hawaii Pacific a special collection, the Library has chosen to invest heavily in developing a unique collection, justifying reasonable exceptions.

Catalog to the level needed

The high cost of traditional cataloging in an era of declining library budgets and competition from commercial search engines, has inspired libraries to find new ways to meet user needs while decreasing costs. As many at UHM are already aware, alternative standards have begun to emerge at the national level, which are intended to simplify the cataloging requirements while maintaining appropriate access. These new record types are designed to function in library ILSs, shared catalogs, and metasearch systems. We recommend that UHM track these developing standards, and adopt non-MARC alternatives where possible. Some of these include:

VRA Core Categories (for DVDs and Videos)

<http://www.vraweb.org/projects/vracore4/index.html>

Access Level Record (for Series)

<http://www.loc.gov/acq/conser/alrFinalReport.html>

Access Level Record (for Non Serial Remote Electronic Resources)

<http://www.loc.gov/catdir/access/accessrecord.html>

In particular, we suggest that the Library investigate VRA Core as a means to more quickly address the substantial A/V cataloging backlog. Another immediate application may be using



an appropriate metadata scheme for materials in the Japanese and Korean cataloging backlogs. As a whole, expect non-MARC metadata to play an increasingly large role in the future. As non-print and alternative e-formats come more to the fore in scholarly publishing and research non-MARC cataloging will become an imperative. Ultimately, many non-MARC alternatives will allow a library to catalog a greater volume of material in a shorter period of time, yet maintain adequate discovery.

Increase expertise with non-MARC metadata

While adopting non-MARC alternatives is attractive in theory, it will be necessary to get staff up to speed. R2 understands that ScholarShare currently uses Dublin Core, though this descriptive work is not taking place in Cataloging. While the coding and vocabulary differ from MARC, at their root, these schemes involve the same skills in subject analysis that characterize cataloging. We suggest that UHM find a means to increase the number of people involved. Copy catalogers, in our view, might prove very adept at learning and becoming productive in these schemes if the opportunity is made available to them.

Streamline A/V cataloging

After growing for years, the Library has dedicated 75% of one professional cataloger's time to work down the A/V cataloging backlog. Progress is being made in reducing the backlog and some creative solutions have been implemented. For instance, when two copies are ordered, one now goes directly to Sinclair to circulate while the other copy goes into the cataloging backlog, which has reduced rush request considerably. However, we believe additional changes need to be made to UHM's conventional A/V cataloging practices in order to expedite clearing the backlog.

First, we believe the Library should investigate using VRA Core to simplify A/V resource description (previously recommended). Next, we think that there would be value in simply cataloging and shelving A/V material in accession order. Given the advancements in online discovery technology, the impact on patrons would be minimal, but processing effort would be reduced, helping clear the backlog faster. In addition, end processing for A/V needs to be reorganized in several respects. First, the professional cataloger is currently labeling the A/V materials. This task should be performed by paraprofessional staff so that professional catalogers can maximize time generating records. As was previously recommended, we also think that end processing activities should be reviewed and standardized across all collections. The emphasis should be on minimizing the information on the physical marking and relying on the electronic record for extraneous information (e.g. playing format).

Launch an OCLC reclamation project after the inventory project

Many of the new, high-profile services being developed by OCLC, such as WorldCat Analysis and WorldCat Local rely on a library's holdings being up-to-date. Other services, such as Google Book Search utilize WorldCat to identify whether a library holds a title or not. It is R2's understanding that UHM's holdings are in relatively poor shape and that the transfer from RLG's RLIN to WorldCat went poorly. WorldCat holding issues have the unfortunate impact of hampering services like Google Book Search (which some patrons use for a primary search instead of a library's ILS) and make future participation in services such as WorldCat Local ineffective. We believe that it would be very beneficial for UHM to launch an OCLC reclamation project, but think it would be most effective after the inventory work has been completed. As the inventory project is expected to be conducted collection-by-collection, the ideal scenario would be following up in each collection with an OCLC reclamation project. This



will effectively position the Library for participation in OCLC's compelling 'web scale' services now and in the future.

Develop standard approach to Cataloging websites

As demand has increased for cataloging various websites, there has apparently been some difficulty determining whether the material being cataloged is born digital or a reproduction. Significant time is spent attempting to make this determination. We suggest establishing a default action for cataloging websites. For instance unless the selector says otherwise, assume that the website being cataloged is born digital. Do not spend further time researching whether this is the case. In the event something is cataloged as born digital when, in fact, it was a reproduction, we suspect there would be little or no impact on the value of the material to patrons and certainly not enough to justify the research that currently goes into making such a determination.

Selectively improve cataloging knowledge among non-Cataloging staff

Especially in a situation where cataloging is struggling to overcome significant backlogs, it can make enormous sense to train some staff in Public Services (and elsewhere) to perform holding and item maintenance on records in order to reduce the workload on cataloging staff. We suggest that Cataloging offer training for appropriate staff so that these and other minor changes can be conducted outside of the department. While there is a risk that mistakes could be made by non-catalogers, we believe this risk is well worth taking if it reduces workload and allows Cataloging staff to focus on clearing backlogs and addressing more complex tasks.



VI. Planning and Assessment

The “softer” issues of communication, organizational assessment, and planning can sometimes get lost among technical and organizational recommendations, but we strongly believe that they are a critical component to optimizing a library’s overall performance. Over the course of many workflow analyses, we have seen many situations where communication (or lack thereof) has hampered a library as much as outdated processes. In R2’s experience, the departmental ‘silos’ at UHM are among the most rigid we have seen, hampering communication, joint initiatives, and overall understanding among staff about fundamental components of the workflow.

That said, the Library clearly recognizes many of these issues and has taken measures to analyze and correct them. For instance, the ClimateQUAL survey has provided a wealth of information about a wide variety of dynamics of Library’s climate and organizational culture. The Library has also put forth considerable effort developing a solid strategic plan that links goals with specific initiatives and designates specific dates for deliverables. We commend the Library for its effort in this area.

At a high level, R2’s primary concern with planning and assessment at UHM is the lack of communication and coordination between divisions and departments. Too many groups appear to be working in isolation, unaware of the impact they have on others. Lack of general communication has led to major disconnects and the recurrence of mistakes. There is also a significant problem with the availability of data to make management and planning decisions. Staff reported that they have had a difficult time pulling basic information from Voyager, though most have apparently not talked with Systems because they believe they are too busy to help. In addition, the general performance of the workflow is not tracked in a manner that allows supervisors and administrators to determine its effectiveness, or the effectiveness of those in any particular role. In a nutshell, R2 believes that more must be done to get groups communicating with each other, that key information must be more ubiquitous, and systems must be put in place to more closely monitor the workflow as a whole. The following recommendations are meant to aid in this pursuit.

Develop an assessment program for ‘selection to access’ activities

During the course of interviews at UHM, R2 was provided numerous examples of monographs that were ordered and received, but held up at some point between Acquisitions and Shelving – sometimes for months. In most cases, the eventual arrival of such titles happened without explanation and, in most cases, it never became clear where or why such delays occurred. While we believe that the process recommendations contained in this report will address many of the underlying issues related to these delays, it struck us that staff essentially have no means to diagnose such problems on an ongoing basis. Naturally, this would make it difficult to detect recurring process problems that ultimately have a negative impact on the ‘dock-to-shelf’ timeframe.

To this end, we recommend that UHM develop a measurement and assessment program in order to continually evaluate the effectiveness of primary functions on the selection-to-access spectrum. The purpose will be to provide quantitative insights that lead to identifying problems and measuring the effectiveness of solutions on an ongoing basis. That said, R2 has found that staff are often resistant to measurement and assessment programs because they feel that it is a means to judge individuals or that the tracking involved will take too much time. However, in this context, the focus would be on the ‘selection-to-access’ process as a whole instead of individual performance.

Some staff time will be required to track production statistics, but ideally many of the critical measurements will be automatically generated from various systems (primarily Voyager). For



those statistics that would have to be tracked manually, we suspect that most are already maintained, at least informally, by staff members, but are simply not contributed to a central tracking program. If properly used by administrators, the benefits of assessment will greatly exceed the small amount of staff time spent keeping measurements. In the end, the benefits are compelling and include providing feedback on how an organization is performing, giving managers predictive capability from trend analysis, keeping the organization focused on shared strategic goals, and providing data for effective decision-making. Implementing such a system does not require expensive analysis software or major implementation projects.

A format that we believe would be appropriate for UHM is the creation of a 'weekly key measures' report that reviews workflow data from point of selection to access. The first step will be identifying the most critical collective work products and seek formulaic, system-generated indicators of departmental and interdepartmental effectiveness on a weekly basis. Benchmarks will need to be set and departmental performance measured against them. Whether or not UHM meets the goals set, everyone will understand the circumstances more fully and public access units will know how to manage patron expectations more accurately.

The key to developing effective key measures is to focus on a vital few elements, relate them to strategic goals, encourage improved performance, make them consistent with the reward/recognition system, and provide current information on activity levels/trends. The Library will also need to ensure the involvement of those being measured and be prepared to schedule several rounds of collecting/testing data before finalizing the format.

A simple Excel spreadsheet that roughly looks like the following would be a good place to start a planning and assessment program (goals are hypothetical):

Work Product: Week of xx/xx/xxx	Goal	Actual	Queue	Oldest Date
Cumulative % of budget encumbered	54% (2% weekly)			
Electronic selection to order time frame	1 day			
Paper selection to order timeframe	7 days			
Order to receipt timeframe	35 days			
Approval receipts	200 / week			
Gifts processed	50 / week			
Receipt-to-shelf timeframe for "shelf ready"	2 days			
Receipt-to-shelf timeframe for non-shelf ready	5 days			
Preservation binding turnaround (rolling basis)	4 weeks			
e-access problems reported and	< 6 / all			



resolved				
e-resource licenses in process	< 5			
WCCP error rate (PromptCat)	2%			

The 'work product' column should contain major components of the selection to access process that the Library wishes to measure. The 'Goal' column should contain the Library's established benchmark for each workflow component. 'Actual' will measure the result for each process on a weekly basis. Any backlogs will be tracked in the 'Queue' column and the age of the backlog recorded in 'Oldest Date'.

Obviously the format and exact criteria would have to be refined and tested by those involved in the operation. We offer our ideas here solely to demonstrate the concept. For some work products (like Order to Receipt Time Frame) variation from the goal may be the responsibility of third parties. It is very important, especially if UHM broadens reliance on them, that vendor performance is systematically tracked so that new problems or lapses in expected performance can be identified quickly. If ever the quality of a particular function or stream of data becomes unacceptable, immediate measures must be taken to control the effect on patrons, on the systems, and on other departments. This is one reason that these statistics should be maintained on a weekly rather than monthly basis.

If designed carefully and used fully, this kind of tool can help to educate the staff to a new way of thinking about the work, and can provide a really quick way to identify and communicate problem areas as they start to emerge. By scrutinizing some of the most critical (or most illustrative) tasks, and by measuring various time frames, a powerful overview of operations can be created and simultaneously demonstrate the quality of service being provided.

Consider adopting individual performance standards

The selection to access assessment program previously described in this report primarily focuses on measuring processes at a high-level as opposed to individual performance. However, establishing production benchmarks for all individuals directly involved in the selection to access workflow can be tremendously helpful in supporting the achievement of broader strategic goals. Individual performance standards can also be helpful in establishing and upholding uniform expectations among staff.

While this might make some staff uncomfortable, it should be made clear that the purpose of individual performance standards is not to form a definitive value judgment on any one person. Rather the purpose should be developing a leading indicator where additional investigation is necessary. For instance, if an individual is not meeting performance standards, it is possible that they need to have their workload rebalanced or they may need additional training. If performance standards are not kept, this situation might not be identified for some time, if ever. On the flip side, performance standards will also identify those who are performing exceptionally well so that they can be recognized and rewarded for their effort.

As an example, an appropriate individual performance standard for English Language copy cataloging might be 6 records per hour and 1 per hour for original cataloging, or selectors may need to encumber 25 percent of their budget per quarter, and so forth. The performance standards for each person on the selection to access spectrum would have to be established



based on their particular mix of responsibilities as well as natural workflow fluctuations that are outside of the control of the Library. For instance, orders cannot be placed during the fiscal year end close or prior to the budget being established at UHM and this should be taken into consideration when setting expectations for Acquisition staff.

It's not surprising that in situations where these kinds of expectations are in place, production is considerably higher. What might be surprising, however, is that in R2's experience departmental morale tends to be higher as well, because everyone is working to meet the same clear requirements. What we've seen is that the majority of staff will work hard to exceed the expectations and will take pride in doing so. Management should consistently recognize, reward, and celebrate successes in this regard. Make it clear that productivity is highly valued.

Institute Library-wide project planning

The Library's FY2009 – 2010 strategic plan sets out clear priorities, links high-level goals to specific actions, identifies responsible staff (action teams), and, in most cases, sets specific deadlines. In R2's experience, many libraries have a plan that is either too general to be useful or too large to be realistic. In our view, UHM's plan has avoided falling into either extreme and the plan is aggressive, but well balanced.

In an organization with a history of solid coordination among divisions, it might be reasonable to rely on existing 'communication infrastructure' to manage the individual projects that emerge from the strategic plan. However, UHM's 'siloes' nature makes such coordination difficult. The end result is that communication and coordination between divisions appears relatively poor compared to other libraries of similar size. In R2's view, this necessitates additional structure to coordinate various projects across the Library to ensure that they do not overlap, to make sure prerequisite projects are appropriately prioritized, and to promote general awareness of any one project's status.

One means of implementing project coordination and tracking more fully into the strategic planning process is implementing the balanced scorecard (BSC) framework for strategic planning. UHM's current approach to strategic planning will fit nicely into this framework, but the BSC offers a means to extend it, incorporating detailed project planning and status tracking. Originally made popular in 1992 by renowned Harvard business academics Robert Kaplan and David Norton, the balanced scorecard (BSC) is a framework for organizing a strategic plans that:

- Links an organization's mission and vision to operational goals
- Takes a holistic, balanced approach to strategic planning
- Provides a means to track progress on initiatives
- Helps track performance at the group and/or individual level

In the library community, the University of Virginia Library has been using the BSC as an effective planning framework since 2001 and displays their plan, goals, and results online:

<http://www2.lib.virginia.edu/bsc/metrics/all0708.html>

Specific approaches to the BSC do vary, but generally follow the same principles. Essentially, the BSC is based around four "balanced" perspectives:

- User perspective: How effectively is UHM meeting the needs of patrons?



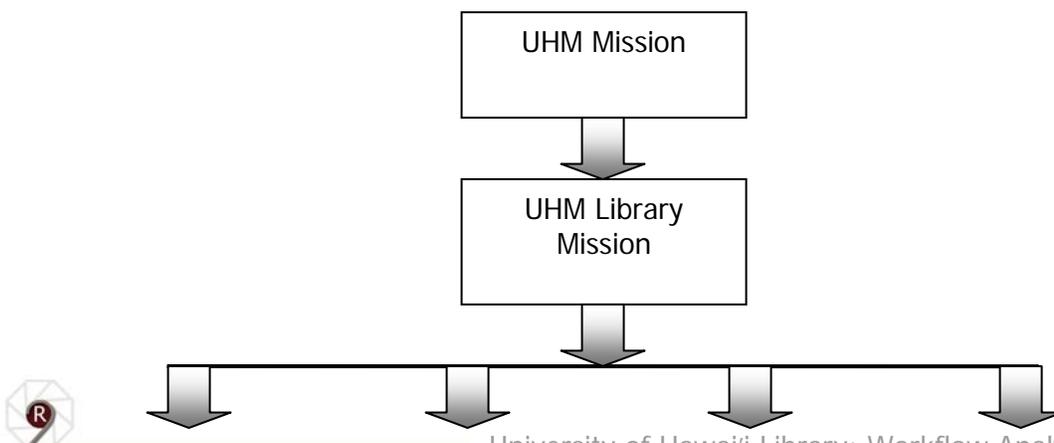
- Internal process perspective: How do internal processes help or hinder UHM's ability to deliver library collections and services?
- Financial perspective: How well are UHM's finances managed and organized to support the Library's mission?
- Learning / growth perspective: Are staff receiving the training and development required to support UHM's goals and mission?

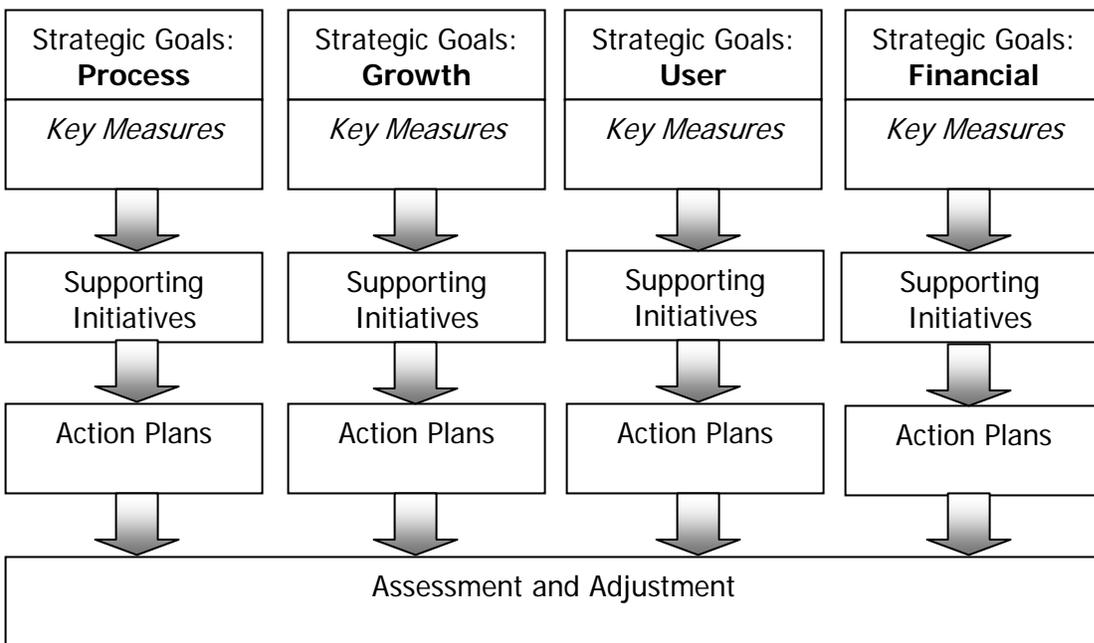
Under each of the four perspectives, two to four major goals are typically set that support the Library's mission. Each of these major goals should have specific, measurable outcomes (aka success criteria) that allow the Library to definitively know if they have achieved a particular goal. A fundamental principle of the BSC is that a goal set under one perspective cannot jeopardize the ability to achieve a goal in another perspective. For instance, a goal set under the financial perspective that requires cutting the training budget would be incompatible with a goal in the learning/growth perspective that requires staff be given additional systems training. In other words, a *balance* must be maintained among the goals under each perspective so that they remain complementary. While we believe adding the formal structure of the BSC framework would be beneficial, up to this point, UHM's existing 2009 – 2010 strategic plan already adheres too much of what has been discussed.

Under each of the defined goals, the individual initiatives (or projects) necessary to successfully achieve that goal should be listed. Some goals might require many initiatives, while others may require only a handful. In turn, a specific 'action plan' should be developed for all initiatives that describes *how* it will be accomplished, *who* is responsible for each activity, and *when* it will be completed. To some extent, this would require that UHM staff provide more detail than is in the existing UHM plan. While this may seem to be a burden up-front, it forces staff to truly contemplate what will be necessary to achieve any on project – forcing communication between departments and divisions to occur sooner rather than later.

Where we believe the BSC could really extend UHM's planning process is the practice of regular assessment of each BSC action plan. Reviews should take place on at least a monthly basis. Reviewing each action plan in detail every month is often not realistic; so many organizations choose to use a status system where only some projects are reviewed. For instance, the US Government Printing Office uses a red, yellow, and green status system on their BSC to convey whether a project is behind, in danger of falling behind, or on target. With this or a similar system, status meetings could be used to discuss 'red' or 'yellow' projects in more detail than projects that are proceeding as planned.

From a process standpoint, a summary of the BSC activity discussed here is as follows:





Improve interdepartmental communication

As R2 understands it, many regular meetings between divisions and departments were cancelled after the flood. While deferring meetings in the immediate aftermath of the flood is understandable, it has now been over four and a half years. The lack of communication between the various divisions in the Library has clearly resulted in a lack of coordination in operational planning. For instance, we understand that the Collection Services Supervisors used to meet on a weekly basis to coordinate their activities prior to the flood. Soon after the flood, the Collection Service Supervisors decided to meet more sporadically, perhaps once or twice a year. Based on R2’s interviews, it is widely felt that lack of coordination among the collections greatly contributes to the silo nature of the UHM Library. Of course, silos make it more difficult than it should be to develop, plan, and implement Library-wide initiatives. While we mention the Collection Services Supervisors as one example, other interdepartmental meetings that were deferred after the flood should now be reconsidered.

In addition, continuing to defer important meetings that were the norm prior to the flood continues to reinforce a ‘flood recovery’ mentality, when, at this point, it would be beneficial to get staff at all levels to move beyond the flood. We do not suggest this to belittle the efforts that went into flood recovery and we do realize that additional recovery work has yet to be completed. However, we believe that some closure needs to be brought to that episode of the Library’s past so that more staff energy and emotion can be focused on future innovations rather than a tragic episode in the past.

Improve intradepartmental communication

During the course of R2’s interviews onsite, it was reported on many occasions that some division and departmental managers do not consistently hold meetings with their staff. Even if relevant meetings between divisions and between departments did occur, information would still likely be stifled because it would not flow from managers to staff in a clear and consistent manner. Nor would the opportunity for discussion and clarification take place. This flow of information is critical for several reasons. First, communication about errors and corrections



must take place to ensure that mistakes aren't repeated. Second, it is crucial that all staff establish a commonly held view of the 'big picture' in terms of workflow. Lack of a commonly held view results in individual groups working in isolation, unaware how they impact others downstream in the workflow or how other's actions impact them. This commonly held view must be established in order to continuously improve workflow or effectively implement workflow recommendations from outsiders.

Ultimately supervisors and managers must take responsibility for ensuring that their staff are aware of what happens upstream and downstream from them in the workflow as well as what is happening in other areas of the Library. If it does not already take place, regular communication with staff should be established through meetings or email updates. These should include status updates about what is happening in the department/division, issues that are being addressed/corrected, new products/services being implemented, and so forth. Questions and dialogue with staff should be encouraged. Remember, the end goal is to create a commonly held view of the big picture among all staff, which will further help break down the formidable silos at the Library.

Reinforce efficient meeting principles

In suggesting that the number of meetings between and among departments and divisions increase, there is a risk that an inordinate amount of time could be wasted if these meetings are not run effectively. Of course, we are suggesting that additional meetings take place to open dialogue, smash silos, and encourage collaborative problem solving. Therefore, prior to mandating that more meetings take place, we suggest that standards are set and enforced about how meetings should be conducted at the Library. While we are confident that many meetings at the Library are run quite well, the following principles should be observed in every meeting:

- **Agenda:** An agenda that includes specific points of discussion, timelines and assigned roles is critical. Meetings that do not have an established agenda often devolve into an aimless waste of time or, perhaps worse, a complaint session or bully pulpit. Agendas should be developed and sent out to attendees at least one day in advance of the meeting.
- **Timeframe:** A meeting should have a clear beginning and end time. If there are multiple topics on the agenda, it can be helpful to have time limits for specific points of discussion.
- **Timekeeper:** Developing a timeframe will be ineffective if it is ignored or not enforced. One person in the meeting should be assigned the time keeping role. They are responsible for making sure that the meeting begins and ends on time. If there are time limits on agenda topics, it is the timekeepers responsibility to move the discussion forward. The timekeeper role can be awkward as normal social etiquette discourages interrupting others, but an effective meeting requires that polite, but firm interruptions keep the agenda on course.
- **Minutes:** A note taker needs to be assigned who will publish minutes after the meeting. The minutes should include not only a summary of the meeting, but any action items assigned to attendees.
- **Focus:** It is the responsibility of the meeting leader to keep the meeting focused. When a participant strays from the agenda, even if it is a really interesting diversion,



they need to be brought back on task. The longer the meeting leader waits, the more difficult it can be to reign in a participant.

- **Participation:** It is also the responsibility of the meeting leader to facilitate communication from all participants. It is often the case that a small number of participants dominate the conversation in a meeting. Others may not be comfortable or able to participate in such a circumstance, but may have a valuable perspective to add to the meeting. The meeting leader must politely shut down those dominating the conversation long enough to get the input of more reserved participants.

In addition, staff should be encouraged to be creative with meeting formats. Many meetings are automatically scheduled for a full 60 minutes when a well run meeting on a specific topic could take considerably less time. Shorter meetings, such as weekly status meetings, could be held as “stand up” meetings, where no one is allowed to sit down (barring physical issues) in order to encourage expediency among the group. For longer, recurring meetings, make a point to change the venue, perhaps outside of a standard conference room, to break normal patterns and achieve a fresh perspective. The ultimate goal will be to find creative ways to get information moving among staff as quickly and efficiently as possible.

Require annual reports for each division in the Library

R2 also understands that divisions no longer produce annual reports that contain statistics and updates in their area of the Library. While annual reports do take time to produce, they should essentially be a summary of information that is already closely tracked by each division. Given the lack of communication between departments and divisions at the Library, requiring that annual reports be produced with relevant statistics would be an effective and relatively painless means to improve communication between groups.

Implement a formal succession planning program

A common theme in the overwhelming majority of libraries that R2 visits is an impending staffing crisis that will be caused by a small wave of retirements in the next several years. Unfortunately, the situation is only going to get worse. It is expected that between 2010 to 2014 the vast majority of baby boomers will retire from the workforce, making the small wave causing fits in libraries now look more like a tsunami in five years. UHM is clearly not an exception to this trend. Many of the Library's staff have worked at the Libraries for 25 years or more (one interviewee has been with the Library for 40 years!). And it is important to realize that the turnover risk isn't just related to those who retire. After the wave of retirements begins, libraries across the country will be looking to fill vacated positions and it is entirely possible that some experienced staff not intending to retire for many years will be recruited away from UHM. In the end, all libraries are going to be in the same position and we suggest that the best solution is that all libraries begin cultivating a wide range of staff to take on roles with greater responsibility.

For individual contributors, an aggressive cross-training program should be instituted that minimizes the chance that knowledge will be lost should someone retire or leave for other reasons. Combined with an increased emphasis on documentation, we believe this is the most economical means to manage succession issues for individual contributors.

For management, lead, and supervisory roles, R2 is advocating that libraries across the country take a more comprehensive approach to succession planning. At this point there is a small pool of qualified candidates for many open management and supervisory positions in libraries nationally. We believe that libraries need to collectively act to increase the



management talent pool by developing librarians who show an aptitude and interest in management, whether they are just starting their career or have been working for some time. This will require some up-front investment as well as a shift in mindset. One approach is to develop an internal management training program. We believe that such a program can be modeled on those that exist in many commercial environments and would include at least the following elements:

- MLS and non-MLS staff would be identified as potential future supervisors and managers.
- Identified management candidates would participate in a program of training that would have them rotate through the various departments in the Library.
- Identified management candidates would be encouraged to take leadership and organizational management classes both at the School of Business and/or through short seminars offered by outside organizations.
- Identified management candidates would be assigned to a management mentor within the library who would be responsible for helping the management candidate construct a management education program unique to that individual.

In the end, the establishment of this or a similar programs will put UHM in a reasonable position to weather the coming storm brought on by large numbers of retirements. It will also bring new management ideas into the Library and it will serve to motivate librarians interested in supervisory positions by demonstrating an interest in their continued development. Finally, it will begin to provide an effective stream of good management personnel to fill the supervisory vacancies that will start to exist as more experienced employees retire.

Launch a documentation program; expand TreePad

Closely related to the issue of succession planning, R2 recommends that UHM launch a documentation program to effectively capture information, policies, and practices that are currently stored in the 'heads' of many staff members. We understand that at one time the Library's processes were well documented, but much of it was paper-based and subsequently destroyed in the 2004 flood. At this point it appears that documentation is widely scattered and stored in various locations (e.g. TreePad, network drives, print binders), and not always up-to-date.

The reality is that creating documentation is very time consuming and is not a whole lot of fun. When people are busy, it is very easy to let documentation fall to the bottom of a to-do list. To move documentation up from the bottom of everyone's to-do list, it must be made clear by administration that documentation is necessary and required. A deadline for basic documentation should be set so that everyone has reason to prioritize the task. The Library also needs to develop a standard set of expectations for what the documentation should include and how it should be organized. And finally, all documentation should be made available to all other staff in the Library.

One possible approach to managing documentation in the library is the deployment of an online documentation repository. The Cataloging Support group has effectively adapted software called TreePad to create an online documentation repository with cataloging procedures and documentation. We recommend that either TreePad, or another online technology like a Wiki, be deployed at UHM to support the documentation program. This would make sharing, searching, and updating documentation an order of magnitude easier



than individual documents stored on various PCs and network drives. As long as the software is backed up appropriately, it would also prove much more resilient in the event of another catastrophe like the flood.

Expand the reporting portals for Voyager

In many interviews there was great frustration expressed with the inability to get information needed to make management decisions out of Voyager. In R2's experience, this is not an uncommon complaint at Voyager libraries. As Voyager is Oracle-based, highly skilled database management skills are required to generate various reports. What strikes R2 as odd is that Systems does have staff with these skills and voiced great willingness to work with staff to generate necessary reports. On the other hand, many of those expressing frustration seemed unwilling to contact Systems to request that reports be developed because they came to the preconceived conclusion that Systems would be too busy to help. From an outside perspective, this appears to be another communication breakdown where some simple dialogue could solve a longstanding problem.

Systems has already developed two small reporting portals, though it is unclear to R2 whether their existence is widely known. The first reporting portal is primarily acquisition-based, but would also be useful to selectors. It is located at: <http://reports.lib.hawaii.edu/acq/> and has the following reports:

1. POs Committing Money
2. POs Committing Money, with Titles
3. Invoices Expending Money
4. How much was spent on fund X during fiscal year Y?
5. Invoiced and Not Received
6. Received and Not Invoiced

A second reporting portal, called 'UH Voyager Web-based Tools' has a wide variety of reports ranging from 'Active Serial Titles' to a 'Sinclair AV Media Deselection Tool'.

From R2's perspective it appears that a strong Voyager reporting foundation has already been established and simply needs to be expanded based on input from others in the Library. We recommend that an effort to accomplish just that be launched. Some suggestions for additional reports include the following:

1. Open Firm Orders by fund and/or library unit
2. Cancelled orders (or orders about to be cancelled)
3. Approval or blanket order titles received by fund/date range
4. List of standing orders by fund
5. Items received on each standing order by fund
6. List of active subscriptions by fund
7. Claiming activity reports
8. Fund level reports more regularly (they used to get these)



VII. Organization and Culture

As in many academic libraries, the organizational structure at the University of Hawaii has evolved gradually, in response to workflow demands, campus opportunities, hiring & retention decisions, budget pressures, and available skills.

Based on our interviews and data gathering at UHM, R2 has identified a number of ways to increase efficiency and improve service, from resource identification through access. We have also suggested that the Library consider some high-leverage policy changes to reduce workloads and to increase standardization. Those observations and recommendations are described throughout this report.

However, we believe that our suggestions cannot be fully implemented without some level of corresponding organizational change. Conversely, if some or all of our policy and procedural recommendations are not adopted, staffing assumptions are likely to change. In short, we see these sets of recommendations as interdependent.

There are a number of organizational issues that we believe also need to be addressed:

- There is no real coordinated operational planning. For example, while everyone supports the inventory that is now underway, estimates regarding the extent of record maintenance generated (i.e., work that would need to be done in other departments) were not discussed. Nor was the project prioritized with other large-scale projects that might involve the same resources.
- There is no mechanism for making difficult operational decisions that cross departmental or divisional lines. Many of our recommendations will require decisions of this nature; e.g., discussion and resolution of whether to discontinue e-journals in the OPAC. This affects users as well as operations, and represents a significant change in policy and practice. Consensus is unlikely. How will a decision be made?
- Several changes in management of the Acquisitions department since 2001—mostly filled with interim heads—have left the department without sufficient direction in difficult times (coping with massive flood re-orders, space planning, etc.) Much has change in the Acquisitions world in that time. Many new or changed procedures are suggested in our recommendations. The newly arrived Head, along with her staff, will have a number of competing priorities.
- UHM lacks adequate back-up and redundancy in key functions, such as licensing and e-resources management. At current activity levels, these are functions under pressure. As the volume grows, UHM will need to grow or otherwise obtain more expertise in these areas.
- Serials techs below Level VI have very little experience with electronic resources. Yet some tasks related to electronic resources very closely parallel activities related to print. For instance, URL maintenance is in effect a form of claiming—assuring current access to subscribed materials. As the volume of e-resources grows, and print-related activities diminish, there is an opportunity to shift some of these functions laterally.
- The Libraries need to acquire or grow some additional skills: foreign languages, knowledgebase management, serials holdings, collection evaluation, and materials conservation. The lack of CJK and other language skills in Acquisitions is particularly debilitating, as data must be transliterated.
- CATSS has three vacant positions—as has been the case for some time. While the group is coping reasonably well with its load, it is clearly under strain. At the same time, changes in the BBS mainstream may reduce the volume in this area by 4,000-6,000 units per year.



- Collection Services supervisors don't meet regularly as a group, which limits UHM's ability to deal with cross-departmental issues.
- It is important to keep in mind that the policy and workflow adjustments described in previous sections could shift workloads—and therefore staffing requirements---significantly. We have suggested elimination of some tasks; others are likely to be reduced or modified. Still others could expand. A quick reminder of those changes may be helpful:
 - Budget reductions and the cessation of replacement orders will reduce the amount of material acquired, and the workload in most areas.
 - Full implementation of the BBS/WCP changes for monographs will reduce workloads in acquisitions, cataloging, labeling, and preservation. In some areas, this could represent as many as 6,000 fewer units.
 - A decision to remove e-journals from the OPAC would free significant time in cataloging and holdings maintenance. Users would instead rely on several other access paths.
 - Adoption of a multiple-record policy and Serials Solutions MARC records would have a similar effect.
 - Reduction or elimination of some tasks related to print serials will free hours that could be redirected to URL checking.

Clearly there are many variables here, and many opportunities to redeploy hours. These include transfer of additional time to support electronic resources, expanded attention to eBooks, attention to usage statistics and collection evaluation, implementation of the SwetsWise licensing module, and broader use of Serials Solutions, to name a few. There are also significant print-related needs, such as weeding, cataloging backlogs, and an inventory.

To accommodate these tasks, additional structure will be needed, but in our view it may be premature to offer new organizational charts. Instead, we offer the following observations and principles that might help inform the design of a new organization. More likely, however, UHM management and staff will come up with better and more fully realized options once the full impact of the workflow and technical changes has been understood.

Create an Operations management position with cross-departmental latitude

In some respects, this need could be met with a traditional sort of technical services head. As we worked through the changes needed to monographs workflows, it was clear that their potential impact was broad-based: vendors, selectors, ordering and receiving staff, cataloging, systems, labeling, and preservation. Despite a plethora of good will, no one was in a position to see all of the necessary connections and dependencies. No one was actually in charge of making the entire set-up work, nor of negotiating changes with other groups. It is very difficult to implement changes in the absence of this purview, and, if necessary, authority.

UHM needs some sort of position that can encompass the entire selection-to-access workflow and data flow. Over time, there will be a need to shift staff across functions and perhaps between departments as the workflow changes and the workload and priorities shift. This will require the kind of authority now embodied in the Collection Services director position, but perhaps augmented by other factors. There is in particular a real need to develop and implement quantitative performance standards, and manage the entire selection-to-access operation to them.



Create a mechanism for finalizing decisions that cross technical services and public services lines

Conceivably, the creation of this mechanism might be related to the previous recommendation; i.e., a Head of Technical Services could negotiate difficult issues with a Head of Public Services. But, as noted previously, there must also be some provision for reaching decisions on difficult matters on which representatives of the various UHM collection disagree. In order to reach an acceptable level of standardization from where the Library is now, the organization will experience a higher level of conflict than previously. This needs to be managed in a way that balances legitimate user needs with operational efficiency. Similar thinking will be needed as the Administrative Council and others work through the policy and strategy decisions suggested in section II of this report.

Designate a UH System liaison with power to negotiate new terms

While UHM already holds four seats on the SCCC, it strikes us that database policy remains insufficiently influenced by the biggest player. UHM is responsible for 90% of the database activity, and the smaller members benefit a great deal from UHM's commitment to authority control and other system-wide maintenance tasks. As part of establishing better control of its own processes, UHM needs to assert a higher degree of control over database policies and practices. We suggest that UHM designate someone to review the current cooperative arrangements in light of its own needs, and explore options—up to and including setting itself up with a separate database.

Increase staff capacity and training for e-resources

Although 50% of UHM's materials budget is dedicated to electronic resources, staffing capacity remains skewed toward print. At present, most of this activity is related to e-journals and databases, but eBooks too are poised to grow. There is a growing need to shift staff hours from electronic to print. In Serials, tasks related to ordering and payment for both formats are handled by the same staff. This is a good building block, and there are other tasks related to access maintenance that are very similar to print functions such as check-in, claiming, and binding. If our recommendation to remove e-journals from the catalog is accepted, there will be much less holdings maintenance. Time spent on that activity could be shifted to knowledgebase maintenance, withdrawals of print, and other tasks.

This same sort of shift will ultimately be necessary in monographs as well. It will require additional orientation and training of serials and acquisitions staff, but many of the same skills apply. The sooner a shift in this direction can be begun, the more the Library will benefit.

Consider creation of separate E-R and P-R units

One way to assure that staffing for e-resources is adequate is simply to reshape departments that handle them in proportion to financial commitment. Under that scenario, 50% of the hours in every unit should be focused on e-resources. Print functions would be compelled to accomplish their work with the remaining 50%. This would assume that the existing departmental structure remains in place.

Another alternative would be to create a separate E-resources unit, which handles e-journals, databases, and eBooks, and staff it accordingly. This would have the added advantage of allowing those with interest in e-resources to specialize in them, while staff who are only comfortable with print would specialize there. Over time, the E-R unit would grow, and the Print Resources group would diminish.



VIII. Summary of Recommendations

As the length of this report attests, R2 seeks to provide the broadest possible range of recommendations. We expect that some of them will challenge existing practices and values. We fully understand that the Libraries administration and staff must evaluate them and decide which can benefit your organization. Some will be ignored or discarded; others modified to better fit your environment. But we urge careful consideration of them, because we are confident they can create new capacity within your operations, even as they push you beyond your organizational comfort zone.

We estimate, conservatively, that implementation of R2 recommendations will require more than a year of concerted effort. It will be important to think about how to sequence them, and to accommodate dependencies and communication with participants inside and outside the Library. And of course, the R2 perspective is just one of many to consider as the Library maps its way forward.

In the following chart, we've listed all of the recommendations included in this report. We've provided two columns for the Library's use in prioritization, once evaluation of R2's recommendations has been completed. Some libraries ultimately add a third level. We've intentionally left these columns blank, even though we have opinions about them, because these are decisions best left to implementation planners.

Primary recommendations are those "low hanging fruit" that seem most obvious, may already be underway, or may provide the biggest/most immediate benefits in terms of freeing capacity. In some cases, they are required first steps, upon which others hinge. Secondary recommendations are those that may have a lower priority, a lower potential yield, or which depend on a previous change. Some of these will offer less leverage in terms of specific workflow improvements, and others will require greater collaborative effort and long-term planning to accomplish. We believe this model can serve as a brainstorming/prioritizing rubric, and can suggest first, second, and even third phases in a staged implementation.

IX. Closing

Recommendations from outsiders can have enormous value, but naturally they have limitations. Our observations and ideas are based on only a few days' immersion in the University of Hawaii Library's processes, systems, and culture. We are certain that we have mistaken some of what we heard and saw, and that our recommendations will need scrutiny by those of you closest to the situation.

We thank the staff for participating so whole-heartedly in this process. Although there is a great deal of opportunity for improvement, and more than enough work to do, the Library organization has been built on a strong foundation, through the efforts of many dedicated people. Our recommendations seek to build on that foundation, and accelerate UHM's creation of its next generation of library services.



RECOMMENDATION	PAGE	First Priority	Second Priority
II. Library-Wide and System-Wide Policies			
Negotiate or assert more control within the UH system shared catalog	12		
Distinguish more fully between special and general collections	12		
Define standards for practice and performance (for general collections)	13		
Eliminate backlogs and improve control of materials flows (for general)	14		
Move away from paper-based processes and audit trails	15		
Emphasize access over ownership	15		
Move to electronic-preferred for all formats	17		
Project library resources and expand discovery environments	19		
Apply cost/benefit analysis to Library collections and processes	21		
III. Monographs			
Pursue further consolidation of purchasing with Blackwell	38		
Refine BBS profiles to reduce the number of notifications	38		
Stop receiving printed forms from BBS	38		
Require electronic selection using Collection Manager	38		
Eliminate pre-order duplicate searching in collections areas	40		
Change to the BBS "EDI Workflow with Overlay" option	40		
Change Voyager bulk import rules to work conditionally	41		
Eliminate or automate use of the OUZM PO prefix	41		
Implement EDI ordering from Voyager to Blackwell	41		
Create separate BBS firm ordering accounts and WCP profiles for non-Hamilton locations	41		
Implement WCP cataloging and shelf-ready services for firm orders	44		
Reinstate 100% delivery of WCP records for all accounts	44		
Implement OCLC Bibliographic Record Notification	44		
Change "Set Holdings" from 120 days to immediate	45		
Implement EDI invoicing for BBS monographs	45		
Copy call number to 852 in MFHD upon import for approval shipments	45		
Eliminate 100% review of WCP records; adopt a sampling approach	46		
Reduce or eliminate monographs binding for BBS material	47		



RECOMMENDATION	PAGE	First Priority	Second Priority
Implement Web-based request form or non-BBS materials	47		
Consider purchase-on-demand for some current material	47		
IV. Serials and Electronic Resources			
Streamline electronic resource management	48		
Consider a wiki or blog for e-resources trouble-shooting	51		
Clarify and emphasize the error reporting link for e-resources	52		
Adopt link checking software	52		
Continue to advocate for e-Only theses and dissertations; reduce cataloging effort	52		
Develop a sustainable web archiving solution	53		
Rebalance and reduce check-in	54		
Stop redundant check-in of journals in Sinclair	55		
Standardize routing and handling of print journals	55		
Standardize claiming procedures; utilize electronic claiming	55		
Immediately discard unsolicited issues	56		
Reduce binding of print journals	56		
Inventory and prioritize print serials without records	56		
V. Resource Description			
Establish a policy for separate records by format	58		
Make backlog rush requests more intuitive for patrons	59		
Utilize OCLC Bib Notification or Backstage Marcadia for non-CJK backlog	59		
Adopt a Sampling Approach to Quality Control	60		
Utilize vendor records for Korean and Japanese materials	60		
Establish rules around non-book, Non-English Language materials	61		
Standardize cataloging and processing policies among collections	61		
Catalog to the level needed	62		
Increase expertise with non-MARC metadata	63		
Streamline A/V cataloging	63		
Launch an OCLC reclamation project after the inventory project	63		



RECOMMENDATION	PAGE	First Priority	Second Priority
Develop standard approach to Cataloging websites	64		
Selectively improve cataloging knowledge among non-Cataloging staff	64		
VI. Planning and Assessment			
Develop an assessment program for 'selection to access' activities	65		
Consider adopting individual performance standards	67		
Institute Library-wide project planning	68		
Improve interdepartmental communication	70		
Improve intradepartmental communication	70		
Reinforce efficient meeting principles	71		
Require annual reports for each division in the Library	72		
Implement a formal succession planning program	72		
Launch a documentation program; expand TreePad	73		
Expand the reporting portals for Voyager	74		
VII. Organization and Culture			
Create an Operations management position with cross-departmental latitude	76		
Create a mechanism for finalizing decisions that cross technical services and public services lines	77		
Designate a UH System liaison with power to negotiate new terms	77		
Increase staff capacity and training for e-resources	77		
Consider creation of separate E-R and P-R units	77		

