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HOW ARE WE DOING? IMPLEMENTING ACQUISITIONS METRICS IN PURSUIT OF IMPROVED SERVICE

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Abstract

In September 2008, James Madison University Libraries' Acquisitions implemented a set of metrics for key materials and workflows. This metrics project, from set up to analysis, evolved into a learning experience, with staff utilizing metrics reports to rapidly identify tracking points, deficiencies, and immediate opportunities for tightening workflow and procedures. Benefits were quickly realized through close monitoring of the progress of individual new requests and materials through each unit. As problem areas were identified, immediate action was taken to correct issues and to improve material flow. At the end of the fiscal year, the collated metrics reports were systematically analyzed for overall success in meeting the targets for the year, for key data in measuring the success of the metrics program, and for additional potential in streamlining workflows, procedures, and material flow.

Introduction

In September 2008, James Madison University Libraries' Acquisitions implemented a set of metrics, along with the associated methodology and reporting, for key materials and workflows in each functional unit to monitor and improve unit performances during the 2008-2009 fiscal year. Throughout the summer, the Acquisitions management group, comprised of the Head of Acquisitions and the Content Systems Manager, and managers from the Acquisitions, Approvals, Processing, and Serials, met to formulate targets, methodology, reporting, and desired outcomes for a series of metrics for each functional unit. During the development of metrics for each area, the group also identified measurable and less measurable workflows for each unit along with departmental objectives and key unit-specific issues to be addressed or considered.

The entire metrics project, from set up to analysis evolved into a learning experience with unit managers utilizing metrics reports to rapidly identify tracking points, deficiencies, and immediate opportunities for tightening workflow and procedures. Benefits were quickly realized through close monitoring of the progress of individual new requests and materials through each individual unit. As a result, units were able to meet or exceed almost every metric target for the 2008-2009 fiscal year. Since measurable results and metrics statistics were most striking within the Acquisitions and Approvals, this article focuses on these two functional areas.

I. Metrics Parameters

A. Purpose

The major goal of the metrics project was specifically to acquire and process all types of information resources as quickly, efficiently, and accurately as possible. The objectives for this project were fourfold:

- to establish achievable targets with measurable outcomes throughout the materials flow
- to consistently monitor the flow of orders and materials in each unit
- to analyze progress in achieving established measures, identifying both strengths and weaknesses of the process
- to adjust workflows and procedures to address problem areas and improve material flow and workflow efficiency for each unit

B. Targets and Methodology

Based on previous acceptable vendor and unit performances, as well as patron requirements and expectations, the management group formulated “reasonable” first and second targets for the acquisitions and processing of the majority of resources handled by the Acquisitions Department. This first iteration of metrics concentrated on those elements within each type of material workflow for which the units had some portion of internal control and for which workflows and results would be fairly standardized.

Measurements were based on the elapsed time from when the order was received in the unit until it was delivered to either Processing or Cataloging. First targets for the Acquisitions unit included researching, record creation, ordering, receiving, copy cataloging, invoice entry and processing in the state procurement system and in Millennium, and forwarding of material to Processing or Cataloging for 90% of North American in-print books and 85% of North American media within five weeks, 98% of in-print RUSH titles within three days, and 95% of published e-books within one week. Approvals, due to the two-week delay created by review shelf time, focused on processing 95% of materials within three weeks of receipt from the vendor. There were a number of noted exceptions within these methodologies, such as out-of-print, not-yet-published, and foreign materials.

Once these targets had been established, staff documented methodologies and procedures for ensuring that the measured processes were traceable. In addition, unit managers also noted any particular concerns or problems as well as tweaks in the current workflows as a basis for metrics tracking.

C. Reporting and Review

A Millennium query was established for each area of analysis to accurately report the number of workdays between key points of the workflow within each unit. This procedure consisted of comparing individual unit processes to the system data that best correlated to the processes in question. After collaborating with Acquisitions’ Unit Managers, Content Systems’ staff developed queries to mine data from Millennium and established procedures to automatically compile metrics statistics on a weekly basis.

The queries were unable to provide one piece of desired data. Publication month for approval titles was not available through systems reporting. The Approvals Manager

assumed responsibility for manually entering this data element into the reporting spreadsheet based on publication information from Amazon. The report was, thus, able to calculate the average number of days between publication and receipt on approval. . The Content Systems Manager also designed formulas to automatically calculate sums and averages and pivot tables to highlight key aspects of each report with accompanying graphs.

Once the weekly reports were complete, each unit manager reviewed his or her report and investigated any anomaly, recording explanations or making other notations as appropriate

II. Data Analysis and Results

The metrics were implemented on September 1, 2008, just a month and a half after the recommencement of ordering for the new fiscal year. The first reports were run on September 5, prior to the escalation of orders for Acquisitions and of receipts for Approvals. Subsequent reports were run each Friday for the remainder of the fiscal year, which ended June 30, 2009.

With weekly reviews and notation of the metrics reports, unit managers were quickly able to identify a number of adjustments to immediately either improve metrics averages and, thus, delivery times, or to enhance the accuracy and completeness of the metrics reports. Other procedural changes which did not directly impact the metrics were also implemented as a result of information garnered from the process of establishing metrics targets and working with the metrics reporting. The data elements reported for each unit varied according to the primary activities of that unit.

A. Acquisitions

The Acquisitions unit metrics provided a quick “snapshot” of weekly orders and receipts. The Acquisitions metrics reports were reviewed in conjunction with other tools, such as status reports from the vendor systems, Millennium open order reports, Millennium vendor analysis reports, and order updates pushed to Millennium from the contract vendor systems, to provide a more complete picture of vendor performance and of any trends or recurring issues.

The Acquisitions Manager used this monitoring to ensure that orders were prepared and placed with a vendor within 2 days of order receipt in Acquisitions, and that materials were received and cataloged prior to the end of the week in which the shipment arrived. Metrics and other utilized tools highlighted orders which required further attention from staff and/or vendors. Additionally, the metrics underscored the necessity for more detailed notes and enhanced order tracking within the Acquisitions unit.

Utilizing metrics and the systems reports, the Acquisitions Manager was able to identify specific areas of deficiency and seek a timelier resolution. For example, a few months of metrics reporting uncovered the issue of unfulfilled orders not being cancelled quickly enough with either contract vendor to allow staff to re-order elsewhere to ensure timely

receipt of material. The Acquisitions Manager used this information to approach both contract vendors and request that cancellation periods be reduced to 60 days from 90 days. Acquisitions then utilized the metrics report to identify outstanding orders exceeding the contracted vendors' commitment of 60 days, prompting an investigation to verify the order status and availability and ultimately allowing the Acquisitions Manager to apply pressure on the vendor to either fill or cancel outstanding orders immediately. The Acquisitions staff also began making informed purchasing decisions based on the metrics and other available vendor information during FY09. The unit continued to place the majority of orders with the primary contract vendors; however, based on stock status, orders were redistributed to other sources as appropriate.

Monitoring via the metrics, vendor status reports, Millennium open order reports, and other mechanisms enabled Acquisitions staff to react quickly when issues and delays arose. As a result of this careful monitoring and the aforementioned procedural changes, Acquisitions can boast a higher order fulfillment rate and a more expedient delivery of materials than in previous fiscal years. This is evidenced by the fact that of 12,970 print books ordered; only 82 orders remained unfilled at the close of FY09. This represents a fulfillment rate of 99%. In addition, the average number of days between book firm order and receipt and processing of material in Acquisitions was 22.4 or just over three weeks during the metrics reporting period.

The average delivery time for all materials, including media, scores, and other non-book materials, was 3.23 weeks for the entire fiscal year. This compares to an average delivery time of 4.31 weeks for all materials in FY08 and 4.65 weeks in FY07. In addition, 87.38% of all firm-ordered materials were received within a month, with over 60% being received within two weeks. The cancellation and resubmission of 288 orders to a secondary and on a few occasions, a third vendor is factored into this rate. Also factored in are 105 orders which were cancelled for FY09 because they were either duplicate or not-yet-published titles or due to over-expenditure of funds. Many of the 288 resubmitted orders were out-of-print titles. This delivery rate is more than a 20% increase over the previous year when only 66.45% of orders were filled within a month.

Reports showed the Acquisitions unit consistently exceeded the targets set for print books and media, but fell short on e-books. The metrics reporting will continue to allow Acquisitions to perform further analysis by other key elements; for example, determining the delivery rate for a specified vendor or identifying trends by departmental fund. The information gathered will increase Acquisitions ability to make informed decisions and correct issues in a timely manner.

See Appendix A.

B. Approvals

In Approvals, the metrics reports provided a single reporting mechanism for such elements as duplicates, rejected titles, and fund code changes, enabling the analysis of approval

receipts in numerous ways. This reporting mechanism has, in itself, streamlined workflow. In previous fiscal years, the Approvals Manager spent time manually creating individual reports for each element tracked.

One of the immediate adjustments made in Approvals was the decision to ALWAYS shelve and copy catalog the entire shipment on one day regardless of size. This decision meant that the Approvals Manager needed to request assistance from other units within Acquisitions for unusually large shipments. Staff in both Acquisitions and Serials were trained in unboxing, checking, shelving, and loading approvals into LEO for such a situation. The opportunity arose to utilize these additional resources in January when three weeks of shipments were received on one day. The Approval Manager solicited assistance from the other units and, consequently, this triple shipment was unboxed, sorted and matched to shipping lists, and shelved, with STM titles repacked and shipped to the East Campus Library, and the records loaded into Millennium in a single day.

As a result of the adjustment in loading the MARC files and, to a greater extent, the training of other staff to assist when needed, Approvals was able to achieve the expectation of a three-week (15-day) turnaround by receiving materials and releasing invoices for payment within an average of 13.55 workdays. This average was also due, in part, to the children's award winners which are sent on an approval account, but processed in Approvals as soon as they are received instead of being held for two weeks.

In addition to the number of workdays between receipt and release of materials to Processing or Cataloging, the Approval metrics tracked the number of workdays between publication of a title and its receipt on approval. This was accomplished by staff researching the publication date of a book on Amazon and recording it in the Approval metrics spreadsheet, which was set up to automatically calculate the number of workdays between the two dates. This was a manual process since neither Millennium nor the vendor system records the exact date of publication, the year or month and year respectively. The average number of workdays between the publication of a title and its receipt on approval for all approval titles received during the fiscal year was 62 days.

The averages varied greatly depending on the fund area and publisher. For example, books received on the Geology approval plan, which received a relatively small number of titles, required an average of 37 workdays between publication date and delivery date, while Computer Science approval shipments registered almost 110 days on average. The more telling data, however, was derived from the publisher breakdown. The 194 books published by Commercial Publisher A were delivered from JMU's approval vendor on average within 12.25 workdays after the publication date, while 45 books by Commercial Publisher K averaged almost 67 days delivery. Although not as significant, this disparity was also evident between university press publishers, as well. JMU Libraries received 240 approval books published by University Press A during the metrics measurement period, by far the most from any publisher. These books were received on average 4 days from the publication date. On the other hand, 41 approval books from

another university press averaged 36 days between publication and delivery. Overall, the books from commercial publishers were delivered an average of 11 days later than approval books from university press publishers for the same period.

The Approvals Manager was also able to harvest other valuable information from the approvals metric reports. During the FY09 fiscal year, for example, rejected titles represented slightly over 4% of the total approval shipments at a cost of \$8,676.44. A total of 5.9% of the books received on approval were returned to the vendor. This included 31 duplicates which were firm-ordered before the approvals were received and 7 damaged items.

While the metrics reporting does little to analyze the content or profiling of the approval plans, all of this information should assist the Acquisitions department and the approval vendor in working together to improve the timeliness of approvals. It may also inform the selectors in including or excluding certain publishers from approval profiles due to timeliness of delivery.

See Appendix B.

Throughout the year, as problem areas were identified, immediate action was taken to correct the issues and/or improve material flow. Some of these changes included:

- Cross-training of all part-time positions in key functions of every unit to assist in any of the four functional areas during crunch periods.
- Reduction of the contract vendors' cancellation period from 90 to 60 days for firm orders, allowing Acquisitions staff to reorder more quickly from a secondary vendor.
- Continual review and follow up on open orders using vendor and Millennium reports.
- Ordering materials through the vendors which listed titles as "in-stock" or for which a recent fulfillment date was displayed. Preference is given to primary contract vendors to reduce duplication with approval plan receipts and orders placed through other funds, but titles are researched with additional vendors if the main vendors indicate that the title is not currently in stock or that stock has not been recently received.

III. Conclusions and Next Steps

A. Metrics and Metrics Reporting

At the end of the fiscal year, the collated metrics reports were systematically analyzed for overall success in meeting the targets for the year and for key data in measuring the success of the metrics programs. Some of these successes included:

- Reduction in average delivery time for firm order materials to 3.23 weeks. This compares to an average delivery time of 4.31 weeks for all materials in FY08 and 4.65 weeks in FY07.
- Receipt of 87.38% of all firm-ordered materials within a month, with over 60% being received within two weeks. This delivery rate is more than a 20% increase over the previous year when only 66.45% of orders were filled within a month.

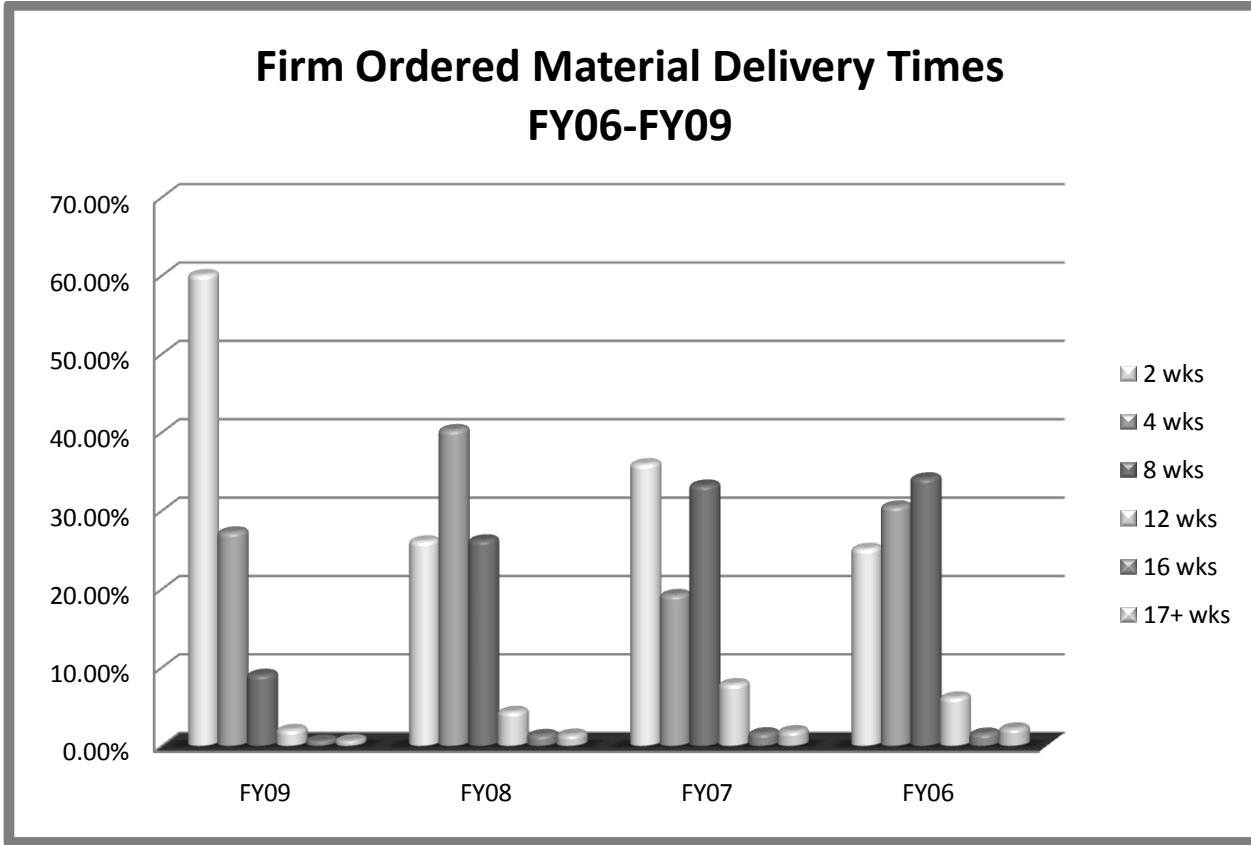
- Moving all accepted approval books from receipt of shipment through Approvals workflows within 13.55 workdays despite the ten-workday review period.
- Identification of the top commercial and university press publishers for approvals and the average number of workdays between publication and delivery for each.

The use of metrics and metrics reporting has enabled Acquisitions staff in each area to

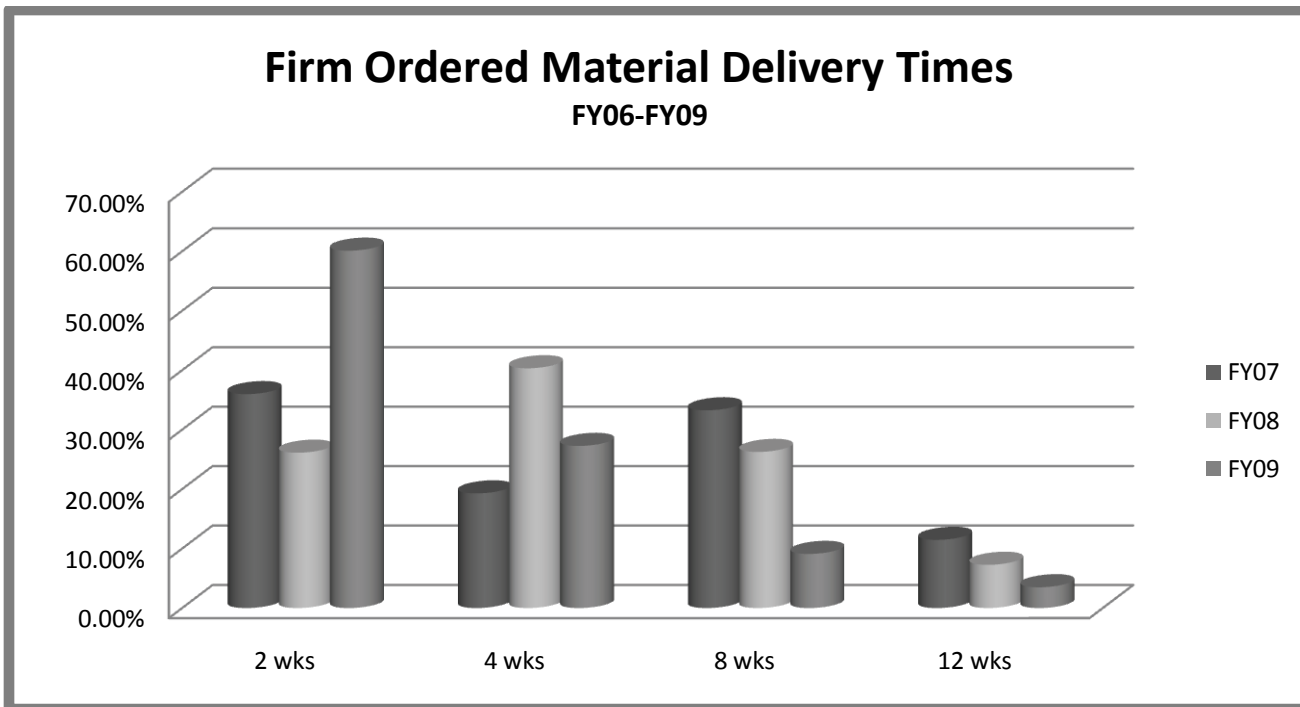
- 1) Diagnose and correct weaknesses within each unit's procedures.
- 2) Identify internal issues and external factors impacting material flow which need to be addressed.
- 3) Maintain a cleaner knowledgebase within Millennium and ERM.
- 4) Acquire and make available to users a higher percentage of requested materials in a timely, efficient, and accurate manner.

Finally, the metrics data not only continues to assist Acquisitions in adjusting departmental workflows and procedures, this data also provides a wealth of information for Acquisitions to leverage in working with vendors to continually improve the processes between vendors and Acquisitions. With a few tweaks, metrics will once again be utilized in Acquisitions in FY10.

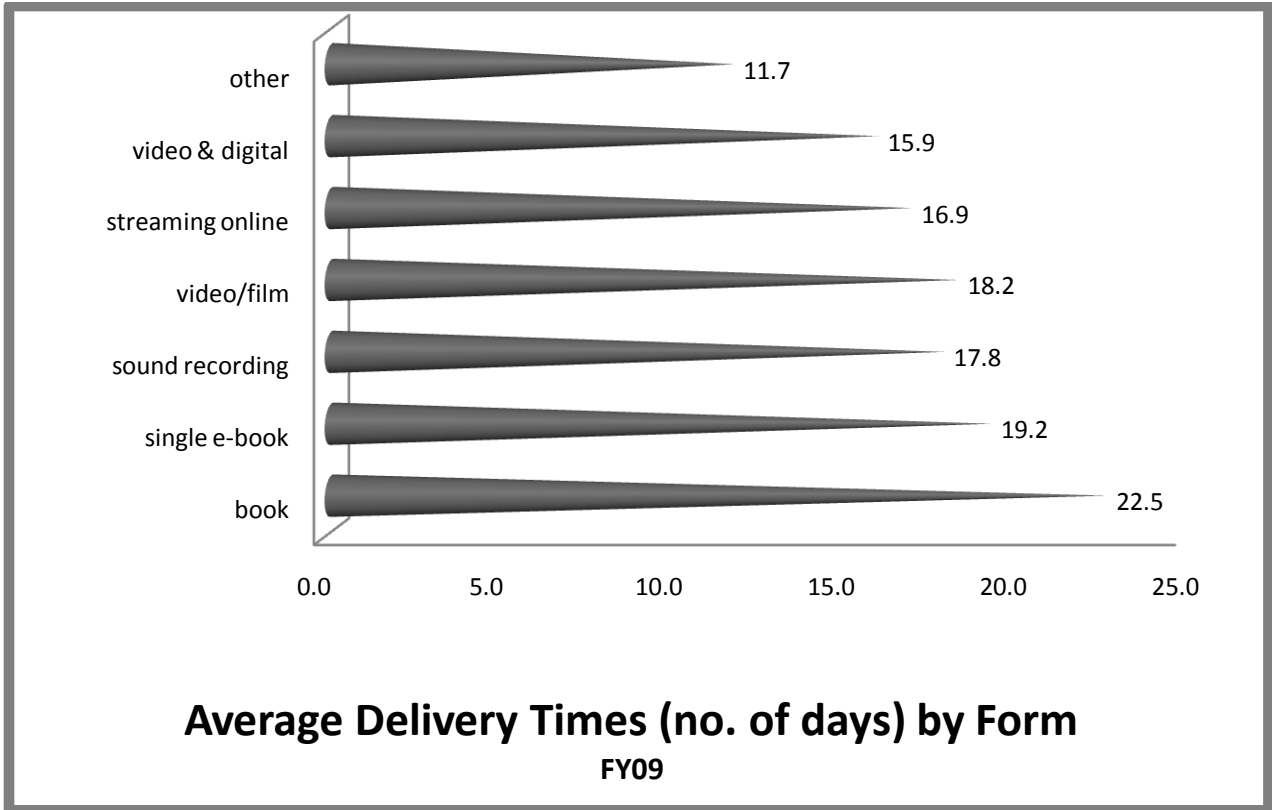
**Appendix A
Acquisitions**



Graph A-1

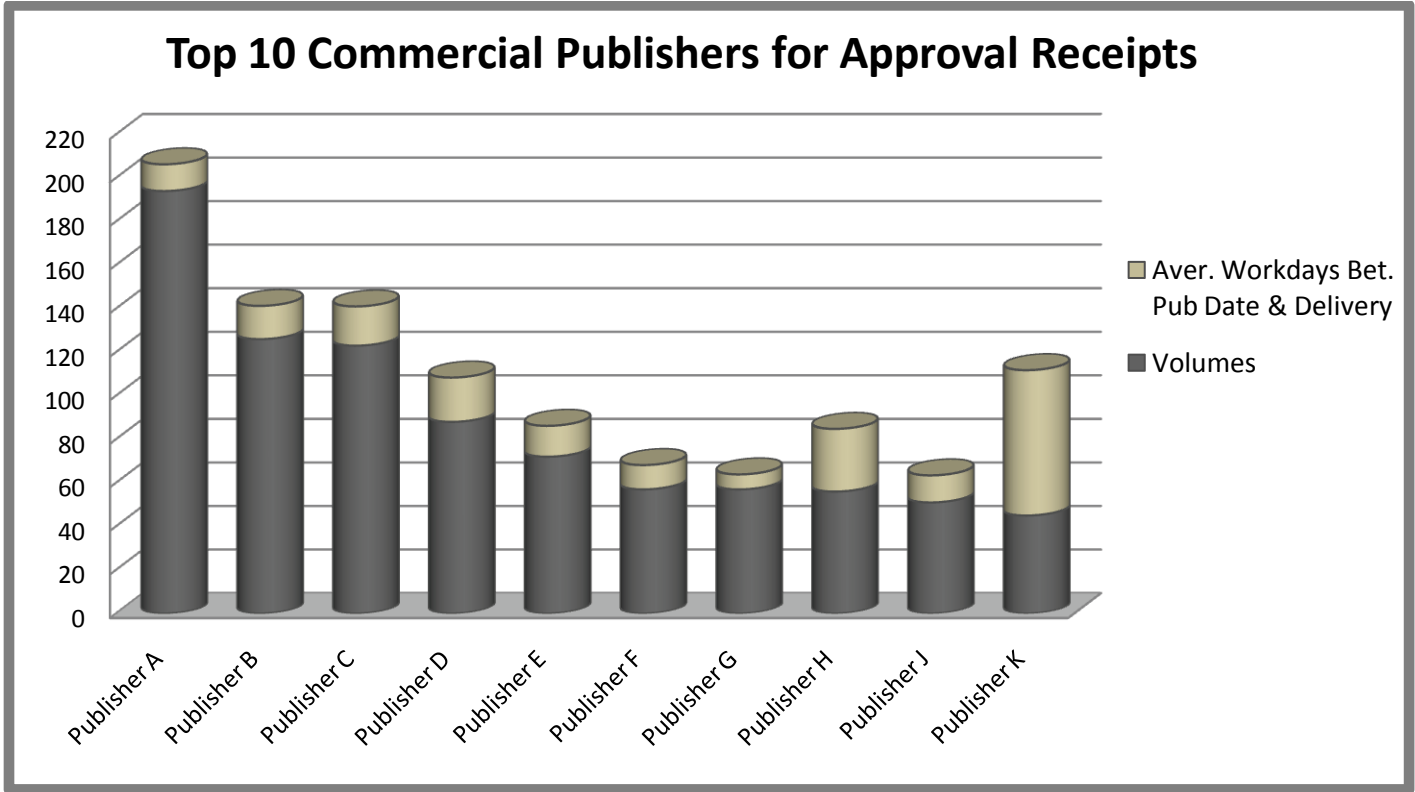


Graph A-2

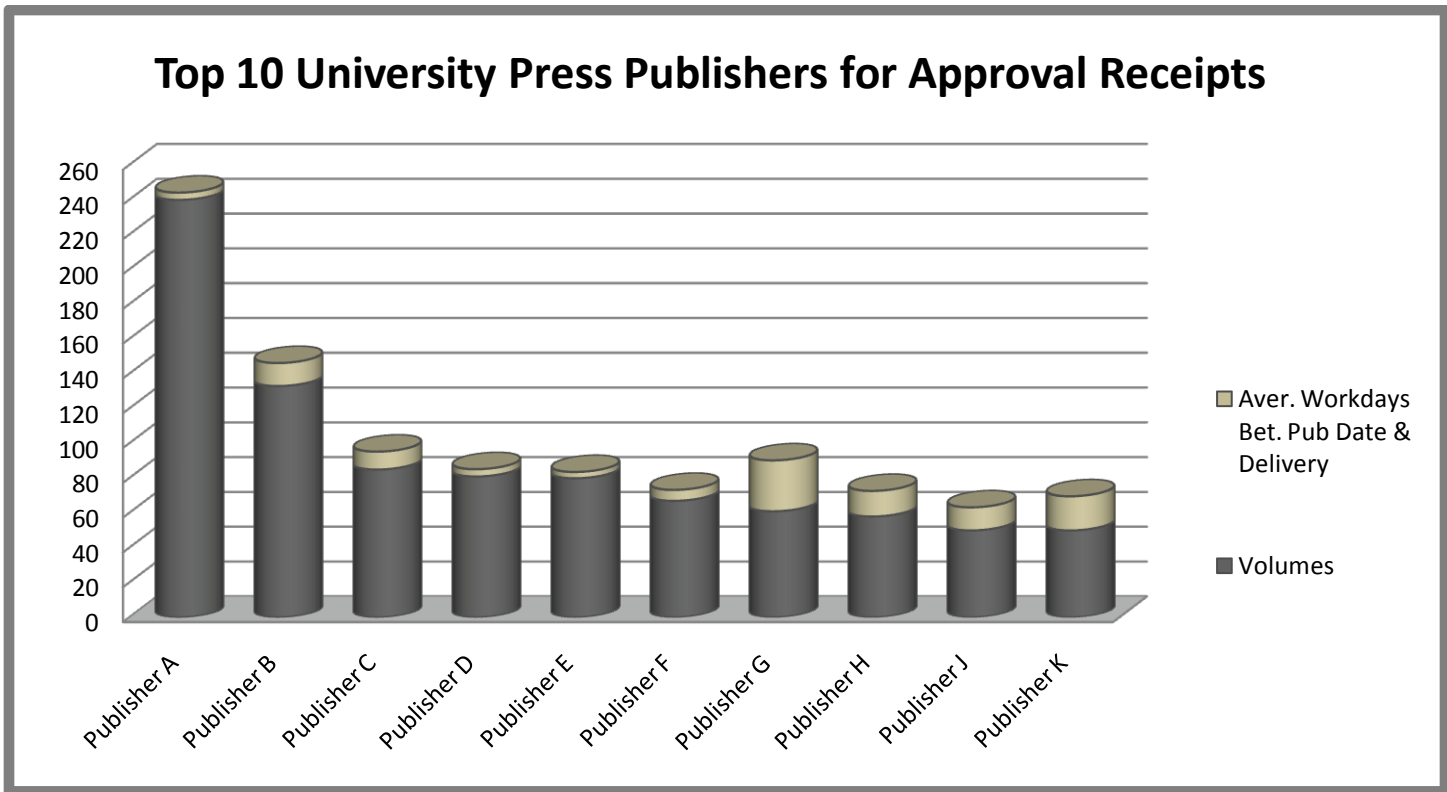


Graph A-3

**Appendix B
Approvals**



Graph B-1



Graph B-2