Chromebook or Surface Pro for the Library Enterprise?

ASU Libraries Mobile Technology Test Pilot

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The Case

Librarians’ work has gone mobile. We use smartphones and tablets in our personal lives; why not take advantage of them at work?

Last fall 2013, the Informatics and Cyber-infrastructure Services department at ASU Libraries, asked librarians (the authors) Mimmo Bonanni and Dennis Brunning to investigate technology needs in today’s mobile workflow. The proposal was to purchase and test mobile technology for a select test group of librarians. We decided to concentrate on lightweight, inexpensive, powerful mobile computing platforms for librarians. Two models stood out: tablets and Chromebooks. The question was; can tablets or Chromebooks replace or act as positive additional tools for the day-to-day work of librarians?

We randomly selected ten librarians to receive Google Samsung Chromebooks and Microsoft Surfaces with keyboards. Five Chromebooks and five Surfaces were given out by lottery.

The librarians agreed to use either the Surface or the Chromebook as their primary computer in the late fall (Nov/Dec 2013) and early spring semesters (Jan/Feb 2014). The group also agreed to provide feedback on their experience via online spreadsheets, and monthly discussion meetings. Librarians also would use ASU digital Web-based voicemail during this period to replace office phones.

We met with testers regularly throughout the year, together and grouped by computer. We helped with setup and mutually discussed best practice guides and tips.

The technology was distributed to the librarian lottery winners in late October 2013 for initial setup, and the project began in November 2013. Implementing ASU Enterprise proved to be a significant barrier to testing. As such, we made the decision to implement user profiles and email settings outside of the ASU system.

We developed a rubric for Librarians to evaluate the technology. Evaluation criteria included: communication (email, Skype, Google hangouts), document writing (documents, presentations, spreadsheets), and work specific project needs like original cataloging, Web-based work, etc. Since we were evaluating two different types of technology, and types of collaboration, we created two ways to collect feedback and input. One, an online Excel spreadsheet in SkyDrive (the Surface users), and also a Google Spreadsheet in Google Drive (for the Chromebook users). We asked the ten librarians as they used either the Surface or the Chromebook to record what app or program they were using and record on a Likert satisfaction scale of 1-5 whether the app had a high rate satisfaction (5) or low satisfaction (1). In

Findings

We discovered that there were certain advantages to using a tablet, and other advantages to using a Chromebook:

- Long battery life on a single charge. Can use a full workday without charging.
- Can Install third-party apps like Dropbox, Facebook, Twitter.
- Technology specific advantages included:
  - Chromebook works well with Google drive Apps (i.e., document, presentation, and spreadsheet).
  - Chromebook touchpad is more precise for day-to-day work instead of touchscreen.
  - Chromebook keyboard is closer to a desktop keyboard, and easier to use compared to the attached Surface keyboard.
  - Chromebooks are a better value. They are significantly less expensive compared to MS Surface tablets; half the cost.
  - Surface works comes with MS Office and Skype built-in.
  - Surface monitor is brighter and has better resolution, so reading PDFs and documents is easier than on a Chromebook.
  - Surface form factor is more portable (without keyboard) to take to meetings and conferences.
  - Surface offers unique multi-task touch features and multi-tasking software, allowing you to see more windows on the screen at once.
  - Surface has better offline capabilities; when offline you can save documents to the drive of the tablet and upload to Skydrive later.

Some shared disadvantages of both include:

- No remote desktop functionality; including VPN or Remote Desktop.
- Not all library-related apps are available, like libraries ILS (Integrated Library System), or library suggested products like Mendeley.
- Both products do not have a completed integrated enterprise system using apps; cannot get access to network files or network printers.
- Would need to develop a new mobile ASU Libraries image.
- Built-in cloud functionality would need system integration work with ASU Libraries.
- Confidentiality: Mobility means if lost, staff information is less secure.
- Both tablets and Chromebooks rely on an Internet connection: offline work for both is limited.

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<http://www.against-the-grain.com>
Some disadvantages were unique to the technology, like:

- Apps used by library staff for committee and group work like Skype and MS Office are not available for Chromebook.
- Chromebook screen is not as vibrant, which makes it less effective for reading documents.

During the meetings, the authors also prompted and guided discussions based on several questions. The questions were designed to help expound on the already gathered input from librarians, and lead to a consensus decision on what technology this group of ten librarians recommends. Discussion questions included:

- **If ASU Libraries** had an ample budget to purchase mobile technology, which of the two devices would you recommend?
- **If ASU Libraries** only had the budget for one mobile technology (either Surface or Chromebook), what would need to be changed to either the Surface or Chromebook in order to make it more functional for ASU librarian workflow?
- What are the major positives/negatives for either the MS Surface to the Chrome OS?
- If our goal for future mobile technology is to replace our current library computing desktops, what would we suggest for purchase?
- If our goal for future mobile technology is to have a secondary mobile computer desktop with mobile devices, or not to replace the desktop, but purchase mobile device to supplement the desktop. Here are the recommendations and consensus decision from the group:

  - If mobile technology is a desktop replacement:
    - **Recommend purchase of a tablet.** The MS Surface Pro over the MS Surface. More powerful, can run more apps, can use remote desktop.
    - Include docking station with larger monitor and keyboard, so staff can have the mobility of the tablet, but also the functionality and productivity of a desktop with the larger monitor and keyboard.
    - Include external drives for more storage and portability.
    - Mirror image the tablet to include ASU apps (i.e., VPN and remote desktop) and network drives and network printing.
    - Need to factor possible Surface theft or loss.

  - If the mobile technology is a desktop supplemental device:
    - **Recommend purchase of a tablet.** MS Surface 2. Runs MS Office natively so fits well with librarian workflow; Word, Excel, PowerPoint.
    - Have option of allowing library staff pick their tablet device; options can include Apple iPad or Android tablets. Suggest implementing a voucher system where Librarians can buy their device. Voucher should at least cover the minimum.
    - Mirror image the tablet to include ASU Apps (i.e., VPN and remote desktop) and network drives and network printing.
    - Need to factor possible Surface theft or loss.

Ultimately after using both the Surface and the Chromebook for four months, the group of librarians unanimously agreed that mobile technology is necessary for librarians to remain productive in their day-to-day work. With regard to a head-to-head competition between the Chromebook and the MS Surface, the group agreed that tablets are the clear winner. Although Chromebooks are less expensive, with a better keyboard and precise touchpad, the lack of built-in productivity apps, less portability, and lower quality monitor make the MS Surface tablet a more useful choice for librarians.

Benefits of mobile technology are obvious from the pilot; however, there are challenges to implementing in enterprise and the library. It is more challenging to secure the technology, both in and outside the university network. What if the tablet or Chromebook gets stolen or lost? New policies would have to be put in place to manage these new devices and ensure librarians will have secure access to the university network and files, like requiring passwords on start-up, or enabling encryption. Library and university IT would also have to balance users’ needs to access corporate app stores (both MS Store and Chrome Web store), and provide safe and secure access to the university’s sponsored apps, and network.

Mobile technology could benefit staff in an enterprise system, and lead to increased staff productivity and work satisfaction in today’s mobile working world.

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